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ECONOMIC INSTITUTIONS FOR A RESILIENT CARIBBEAN

Editors:

Moisés J. Schwartz and Diether W. Beuermann



Economic institutions have played an important role in shaping Caribbean societies. But the world is evolving rapidly, and we must examine how these institutions respond to the needs of our citizens in the post-pandemic era. Our economic resilience will shape our future, and this research brings welcome depth to an important discussion. The IDB has, once again, proven its commitment to the Caribbean with this timely publication.

**—Mia Mottley,
Prime Minister of Barbados**

This volume is another great addition to the scholarship on the understudied yet critical problems of economic development and state capacity in the Caribbean, problems that have been exacerbated with the COVID pandemic. Anybody wishing to get a deeper understanding of the prospects for improved economic performance and public services in the Caribbean would learn a lot from this volume.

**—Daron Acemoglu, Elizabeth and James Killian
Professor of Economics, Massachusetts Institute of Technology; coauthor,
*Why Nations Fail: The Origins of Power, Prosperity, and Poverty***

The building of economic institutions plays an indispensable role in the development process. With a strong foundation of economic institutions, economies become more stable, more robust, and more predictable while allowing for greater policy flexibility when this matters most. This book provides a wealth of information on how Caribbean economies are building economic institutions and sowing the seeds of future prosperity.

—Nigel Clarke, DPhil., MP; Minister of Finance and Public Service of Jamaica

The trick in institutional analysis is to balance the specificities of the case, with our understanding of broad principles. This book is a role model for how this can be done. But it is more than that, because it recognizes that you have to satisfy the political constraints too. Another pathbreaking contribution.

**—James A. Robinson, Reverend Dr. Richard L. Pearson
Professor of Global Conflict Studies, University of Chicago; coauthor,
*Why Nations Fail: The Origins of Power, Prosperity, and Poverty***

In an earlier volume entitled “Nurturing Institutions for A Resilient Caribbean” Beuermann and Schwartz traced the historical evolution of a number of important political and economic institutions and its impact on the economic development of six Caribbean states. This refreshingly readable and insightful follow-up edition presents a detailed analysis of the current state of several important economic institutions whose structural weaknesses have contributed to the under-performance of the region’s economies. The Book’s editors and its impressive team of contributors should be congratulated for providing a cogent but practical agenda for addressing the main institutional deficiencies in the public financial management systems of the six studied economies. Empirical evidence worldwide has shown that getting the institutions right usually contributes greatly to sustained economic growth and enhanced living standards. The Caribbean people deserve no less.

—Ewart Williams,
Former Governor of the Central Bank of Trinidad and Tobago

This important volume brings together a series of excellent studies of the economic and administrative institutions in place in a series of Caribbean nations, with an eye to their suitability to meet contemporary developmental challenges. The chapters both analyze the current setting and suggest ways to improve institutional and economic outcomes. Covering a very wide range of policies – from pensions and sovereign wealth funds to monetary policy and financial regulation – the volume is a valuable and informative guide for policymakers and others in the Caribbean and in the developing world more generally.

—Jeffry Frieden,
**Professor of Government, Harvard University; author,
*Currency Politics: The Political Economy of Exchange Rate Policy***

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Foreword

A n ample body of theoretical and applied research has shown that well-designed institutions—broadly defined as the rules that shape human interactions within a society—have a profound and enduring impact on the success of countries. A previous Inter-American Development Bank publication, *Nurturing Institutions for a Resilient Caribbean*, provided new insights on a wide set of political, rule of law, economic, and social institutions in the Caribbean for the 21st century. A key message of that 2018 publication was that relevant economic institutions have much room for improvement across the Caribbean.

This volume, *Economic Institutions for a Resilient Caribbean*, takes an important step to address this need by offering a viable path for the Caribbean countries to improve their economic institutions, and thus their economic performance. The book provides a novel and comprehensive analysis of institutions that promote sustainable fiscal management, effective monetary policy, and resilient financial systems. The Caribbean institutional setting is analyzed and compared against other regions and international best practices. Importantly, the analysis goes significantly beyond diagnostics by providing country-specific options for reform agendas supported by relevant evidence across the entire spectrum of the institutions studied.

There is much we can learn from the theoretical and empirical work, as well as from international experience, on economic institutions. This volume garners evidence from all these sources and experiences and provides the distilled knowledge and lessons that are relevant for the Caribbean to achieve a more promising future. Stronger and better-equipped institutions constitute a formula for success, and sound economic institutions are a prerequisite for economic development and prosperity.

It is my expectation and hope that the findings presented in this volume will spark debate and action that moves Caribbean countries forward

on a pathway to economic success. I thus invite policymakers and all those interested in the economic development of the Caribbean countries to consider the analysis and recommendations contained in this volume, which is the result of a collaborative effort between global and regional specialists in the field and our own team at the Inter-American Development Bank that works tirelessly to improve lives in Latin America and the Caribbean.

Mauricio Claver-Carone

President

Inter-American Development Bank

Acknowledgments

The Caribbean Country Department (CCB) and the Institutions for Development Sector (IFD) of the Inter-American Development Bank (IDB) partnered in an effort to perform an in-depth analysis of the design and quality of economic institutions across CCB countries—The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago. The focus is on a whole set of economic institutions aimed at strengthening fiscal management, supporting effective monetary policy, and promoting sound financial systems. This book follows up on a previous CCB volume—*Nurturing Institutions for a Resilient Caribbean*, edited by Diether W. Beuermann and Moisés J. Schwartz in 2018—that explores the historical development and status of a broad range of political, rule of law, human capital development, and economic institutions in CCB countries. The ample breadth of institutions analyzed in this prior study precluded a thorough examination of each type of institution in each CCB country. Hence, this volume studies a wide set of economic institutions that complement each other, and, when carefully designed, set the stage for sounder fiscal systems, proper monetary policy implementation, and more resilient financial systems.

Such an ambitious effort would not have been possible without the support of our colleagues at the CCB who work hard every day to improve lives in the Caribbean. Our most sincere gratitude goes to Therese Turner-Jones, General Manager of the CCB, for her continuous and invaluable support for the project. Special thanks also go to CCB Country Economists and IFD Specialists, who were able to collect a huge amount of information on their respective economies and sectors of expertise. The information gathered served as key inputs for the analysis presented in this book.

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The views expressed in this volume are those of the editors and authors of the corresponding chapters and do not necessarily reflect the views of the Inter-American Development Bank or its Board of Executive Directors.

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About the Editors

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Diether W. Beuermann is a Lead Economist in the Caribbean Country Department of the Inter-American Development Bank. He has led research and data collection projects in various countries, including Barbados, Guyana, Jamaica, Peru, Russia, Suriname, The Bahamas, Democratic Republic of Congo, Trinidad and Tobago, and the United States. His research has covered the effects of different information and communication technologies on agricultural profitability, child labor, academic performance, pre-natal care, and neo-natal health. He has also conducted research on the effectiveness of participatory budgeting, the short- and long-run

effects of educational quality, the role of remittances as a social insurance mechanism, the effects of early-life weather shocks on short- and long-term human capital accumulation, the effects of public health insurance on health outcomes and labor supply, the effects of behavioral-based entrepreneurship training on firm profitability, the effects of blue-collar crime on financial access and credit prices of affected firms, and the effectiveness of math-focused parenting programs. He has published in several international peer-reviewed journals, including the *American Economic Journal: Applied Economics*, *Journal of Human Resources*, *Journal of Health Economics*, *Journal of Development Economics*, *Economics of Governance*, and *Economics and Human Biology*. He holds a BA in Business Management and a BSc in Economics from the Universidad de Lima, an MSc in Finance from the University of Durham, and an MA and PhD in Economics from the University of Maryland, College Park.

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Introduction: Economic Institutions in the Caribbean

Diether W. Beuermann and Moisés J. Schwartz

“A discretionary policy for which policymakers select the best action, given the current situation, will not typically result in the social objective function being maximized. Rather, by relying on some policy rules, economic performance can be improved.”

Nobel Laureates Finn E. Kydland and Edward C. Prescott, 1977

In our previous study, *Nurturing Institutions for a Resilient Caribbean*, we systematized the theoretical underpinnings and empirical evidence on the link between socioeconomic growth and a broad set of institutions in the Caribbean (Beuermann and Schwartz 2018). More specifically, we looked at political, rule of law, human capital development, and economic institutions and specifically applied them to six countries: The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago.¹ The study documented that critically important economic institutions necessary for growth and resilience were largely absent or in need of significant improvement in the Caribbean.

However, the ample breadth of institutions analyzed in the prior study precluded a deeper inspection of each type of institution in Caribbean countries. This book, therefore, constitutes a follow-up to our previous study in order to examine economic institutions that can jointly establish the conditions for more robust fiscal systems, effective monetary policy, and sounder financial systems in the Caribbean.

The relevance of institutions for economic development has been recognized since ancient times. However, for modern economics, the recognition that institutions influence economic development dates to Adam

¹ The countries constitute the Inter-American Development Bank’s Caribbean Country Department.

Smith. In the *Wealth of Nations* published in 1776, Smith brought to the fore the crucial role played by rules relating to how societies should be organized (i.e., institutions such as the rule of law and property rights) in determining the proper conditions to productively engage in economic activity. Time has proven him right: countries that have strengthened the quality of their institutions have outperformed others with weak institutional frameworks, and today there is a widespread understanding that institutional quality plays an important role in shaping the patterns of prosperity and economic development around the world (Acemoglu and Robinson 2012).

This volume focuses on economic institutions defined as rules and organizational arrangements that, if they govern the design and implementation of fiscal and monetary policies, can better align those policies with long-run citizen interests. Specifically, the economic institutions covered are those that promote more sustainable fiscal management, adequate implementation of monetary policy, and more resilient financial systems. On fiscal management, the book covers public revenue administrations, public financial management systems, public debt management institutions, fiscal rules, medium-term fiscal frameworks, independent fiscal councils, and the design features of sovereign wealth funds. While pension schemes are not a fiscal institution, they are also analyzed because of the fiscal burden and contingencies that these systems may entail. In terms of institutions that support effective monetary policy, the focus is on the importance of central bank independence and transparency. On financial systems, the book analyzes the relevance of financial regulation and supervision to promote more stable and efficient markets that are better suited to confront challenges and more resilient against external shocks. Some institutional enhancements that foster access to credit and deeper financial systems are also analyzed.

While this book was being written, the world experienced the shockwaves of the COVID-19 crisis. Every region in the world has felt the drastic impact of the pandemic both in terms of human loss and economic activity, but the Caribbean has been hit particularly violently (Arteaga-Garavito, Beuermann, and Giles Álvarez 2020). Of course, dealing with shocks is certainly nothing new for the Caribbean: the region has long been prone to recurrent natural disasters such as tropical storms and hurricanes that have had devastating economic and social consequences (Heinen, Khadan, and Strobl 2019; Beuermann and Pecha 2020). Furthermore, these economies, highly dependent on external activity and vulnerable to commodity shocks, have endured prolonged episodes of uncertainty in economic activity.

A sound institutional framework by no means constitutes a full-fledged protective shield against such devastating shocks, but it provides a more formal structure to respond to them. Countries that have engaged in institutional development have been shown to be better equipped to confront these challenges, be more resilient in responding to them, and have better prospects to recover more rapidly.

The challenges that the world faces today amidst the COVID-19 crisis highlight the importance of forward-looking and responsible public economic management. This volume focuses on key economic institutions with specific applicability to Caribbean countries. We do so by providing an in-depth analysis of the design and quality of economic institutions designed to strengthen fiscal management, support proper monetary policy implementation, and promote sound financial systems.

Each of the chapters in this volume is devoted to dual objectives regarding a specific institution. The first is to document the international evidence on the effectiveness and most desirable designs of each institution and how this varies with respect to differing contexts. The second is to provide actionable policy recommendations on the design and implementation of each institution for each Caribbean country, guided by documented international evidence and the context of each country.

The first section of the book, which includes Chapters 2 through 8, focuses on institutions that support sustainable fiscal policies. In Chapter 2, Gerardo Reyes-Tagle, Carlos Silvani, and Laura Ospina focus on public revenue administrations. Special emphasis is given to the relationship between tax policy and tax administration, as well as the key organizational features that have been shown to improve effectiveness for collecting taxes. Among others, key advances in big data and artificial intelligence are highlighted as critical innovations on this front. The chapter concludes with a roadmap of policy actions with promising potential to improve the effectiveness of tax administrations across Caribbean countries.

In Chapter 3, Jose Fajgenbaum and Claudio Loser analyze international best practices in public financial management processes to identify key enhancements applicable to Caribbean countries. The authors highlight the potential positive impact on Caribbean countries of improved budget formulation, execution, and oversight, budget credibility, budget transparency, and financial governance. The authors also provide action plans to strengthen the public financial management systems of each Caribbean country.

In Chapter 4, Henry Mooney, Joan Oriol Prats, and David Rosenblatt focus on the relationship between public debt management institutions and debt dynamics. The authors document the debt accumulation processes of

Caribbean countries and relate these experiences to needed enhancements in key pillars of their debt management institutions. Special emphasis is given to the managerial structure of public debt, as the evidence suggests that it represents the most central pillar of a well-designed and adequately resourced debt management institution. The empirical benchmarking exercise conducted by the authors shows that most Caribbean countries need critical improvements to ensure that debt management practices are consistent with the macroeconomic framework, including debt sustainability prerogatives and economic and financial stability.

In Chapter 5, Teresa Ter-Minassian analyzes the role that fiscal rules and independent fiscal councils can play in promoting sustained and good-quality adjustment in the public finances of Caribbean countries. The author first discusses the main issues in the design, implementation, and effectiveness of fiscal rules, drawing on the extensive literature and international experiences in this area. She then covers issues related to the creation of independent fiscal councils and the limited empirical evidence to date on their effectiveness. The chapter concludes by discussing the applicable lessons for each Caribbean country and putting forth suggestions for improvement.

In Chapter 6, Rolando Ossowski assesses the design features of sovereign wealth funds in resource-exporting countries. The emphasis is on issues related to the domestic operations of funds, asset management, governance, transparency, and accountability. The chapter then presents and reviews the main characteristics of the funds in the three Caribbean resource-exporting countries (Guyana, Suriname, and Trinidad and Tobago) and offers suggestions for improvement vis-à-vis relevant best international practices.

In Chapter 7, Laura Giles Álvarez, Victor Gauto, and Jeetendra Khadan develop empirical applications of the complementary roles of two institutions: fiscal rules and sovereign wealth funds. Their focus is on commodity-dependent Caribbean nations. The authors provide simulation exercises on how well-designed institutions support countrywide fiscal sustainability and resilience to unexpected shocks such as the COVID-19 pandemic. The main conclusion from this chapter is that while fiscal rules and sovereign wealth funds may adequately complement each other, other sound fiscal institutions such as public financial management systems, laws, and other regulations may be required to further improve fiscal outcomes.

In Chapter 8, Moisés J. Schwartz and María Alejandra Zegarra examine pension systems in Caribbean countries. Demographic trends, high administrative costs for social protection programs, high levels of informality,

and discrepancies between civil servant pensions and those of the rest of the population point to unviable pension systems in the Caribbean down the road. Furthermore, without pension reform, sizable increases in public pension expenditures in the coming years will strain public finances and reduce the availability of resources, thus crowding out other relevant public sector expenditures. The chapter also stresses the importance for Caribbean policymakers to periodically review the design of their pension schemes and assess what parametric and non-parametric changes are required to achieve adequate benefits, expanded coverage, and financial sustainability.

The second section of the book, which includes Chapters 9 through 11, focuses on institutions that support effective monetary policy and sound financial systems. In Chapter 9, Jakob de Haan presents a conceptual framework explaining why central bank independence and transparency may lead to better communications, improved understanding of messages, and hence better monetary policy outcomes. The chapter documents the global evolution of central bank independence and transparency, showing that while Caribbean countries have largely lagged, noticeable improvements have been recently observed. Based on this evidence, the chapter concludes by discussing policy options to further improve monetary institutions in Caribbean countries.

In Chapter 10, Liliana Rojas-Suarez and María Alejandra Zegarra document the most recent approach to financial regulation and supervision and its applicability to Caribbean countries. Particular attention is given to the addition of macroprudential standards to the traditional microprudential framework. The authors highlight the role of the macroprudential approach to avoid credit procyclicality and build resilience against external shocks. The chapter concludes by summarizing the main institutional enhancements applicable to each Caribbean country to strengthen their financial regulatory frameworks.

In Chapter 11, Thorsten Beck and Henry Mooney present novel data, metrics, and methods to assess the level of financial development in the Caribbean. The authors develop a new measure of financial adequacy that summarizes the incidence of unsatisfied demand for credit among firms. This measure reveals a heterogeneous context within the Caribbean where some countries face severe impediments to firm access to finance and others show robust performance. A benchmarking exercise reveals that Caribbean countries have relatively small banking systems but large insurance sectors, especially life insurance. In addition, Caribbean stock markets are larger than what would be expected but have lower-than-expected liquidity. The authors conclude by highlighting institutional enhancements

with the potential to reduce asymmetric information in credit markets and foster credit competition.

The volume ends with Chapter 12, where Diether W. Beuermann and Moisés J. Schwartz provide overall concluding remarks and some suggestions for policy reform. As evidenced throughout this volume, the accumulated knowledge on the relevance of the analyzed economic institutions for sustainable development is significant. Nonetheless, the ability of a country to alter its institutional setting and establish high-quality institutions ultimately depends on the country's specific situation and characteristics. It is our hope that the theoretical underpinnings, empirical evidence, and tailored recommendations presented in this book will provide substantive material for countries in the Caribbean to embark on an agenda for institutional change that has the potential to improve living conditions in the region.

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SECTION I:

Institutions that Support Sustainable Fiscal Policies

The Nuts and Bolts of Revenue Administration in the Caribbean

Gerardo Reyes-Tagle, Carlos Silvani, and Laura Ospina

“Death and taxes may be inevitable, but they shouldn’t be related.”

J. C. Watts

The overarching objective of taxation is to raise the necessary revenue to finance government spending in the least disruptive manner. This calls for a tax system to be certain, simple, neutral, fair, and able to collect revenues efficiently and effectively (OECD 2014). Revenue administrations have the challenging task to interpret tax legislation, collect multiple taxes, and enforce tax laws.¹ Trustworthy and robust revenue institutions with a smoothly functioning collection capacity are crucial to the sustainability of any state and its society. The opposite can have deterrent effects on the development of a country. This chapter focuses to a great extent on tax administrations (TAs) which are responsible for domestic taxes while mentioning some details suitable to customs administration.

Alongside the apparent problem of underfunding the government, a feeble revenue body raises fundamental questions about the equity of the tax system—that is, the extent to which taxpayers in similar circumstances are subject to the same tax burdens. It also generates economic inefficiencies, notably through the damaging effect of creating the perception of an unfair system, which is one of the elements that determine tax compliance. The unintended economic and social effects of weak tax administrations have led countries to pursue quick tax policy fixes that

¹ The term “revenue administration” usually includes the bodies responsible for tax (domestic taxes), customs (trade taxes and duties), and social security contributions. In some countries, they are integrated within the same body. For the purpose of this chapter, the terms “revenue administration” and “tax administration” are used interchangeably.

do not solve the problem, instead perpetuating a perverse vicious circle. Insufficient revenue leads to tax rate increases that distort economic decisions, calling for additional tax rate changes.² Then the vicious circle starts again.

This chapter focuses on the capacity to collect tax revenues in six Caribbean countries—The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago.³ To do this, the chapter aims to identify issues that bear on the effectiveness and efficiency of these countries' tax administrations.⁴ The analysis concentrates on key aspects and best administrative practices of revenue bodies around the world that could help Caribbean countries strengthen their tax institutions, taking into account the dawn of the digital economy era that is revolutionizing the interactions between tax administrations and taxpayers.⁵ The development of digital technologies—which has changed business models—is prompting revenue institutions to examine the effectiveness of the procedural and analytical tools that they use to tax “traditional” businesses vis-à-vis those that correspond to the digital economy.⁶

As in other parts of the world, the COVID-19 pandemic poses an unprecedented challenge for Caribbean countries. Measures to “flatten the curve” and stop the spread of the virus have had a significant internal economic impact, coupled with external shocks from a combination of supply and demand factors. Caribbean governments have taken targeted policy measures to mitigate the impact of these sudden and deep shocks on individual households, businesses, and the broader economy, mostly through fiscal stimulus responses that have resulted in greater expenditure and through tax relief plans (Reyes-Tagle, Ruprah, and Campodónico

² Beuermann and Pecha (2018) also mention that the low level of trust in politicians in the Caribbean could motivate the emergence of a vicious circle of low tax collection, low revenues for public investments, and further low tax compliance.

³ The six countries are members of the Caribbean Country Department of the Inter-American Development Bank.

⁴ Effectiveness is measured by the size of the tax gap, that is, the ratio between the revenue effectively collected and the potential revenue that would be collected with perfect tax compliance. Efficiency is the ratio between the administrative cost of collection and the revenue collected.

⁵ The chapter comprehensively describes best administrative practices and then reviews the extent to which Caribbean countries have adopted these practices. However, a quantification of the degree to which the region loses tax revenues because of failure to adopt best practices goes beyond the scope of this chapter.

⁶ Notice, however, that this chapter does not analyze issues related to the potential distortionary effects that tax systems might impose on the studied economies. We refer the interested reader to Reyes-Tagle, Ruprah, and Campodónico (forthcoming) for a detailed analysis of tax policy in Caribbean countries.

forthcoming; Reyes-Tagle and Ospina 2020). In this context, Caribbean countries will have to safeguard tax revenue to protect financing of the significant spending needs to support broader government policy responses and be ready to restore compliance levels in the post-crisis period. This will require more efficient and robust revenue administrations. Therefore, the response to the crisis is also an opportunity to enhance knowledge of the functioning of tax administrations and speed up necessary reforms within them and the tax systems of which they are a part.

This chapter starts by providing the context in which tax administrations operate, comparing levels and sources of tax revenues among Caribbean countries. The chapter then reviews best practices in setting up the governance model and the institutional arrangements that should prevail to foster the correct performance of tax administrations. The analysis breaks down the organizational structure that allows revenue bodies to conduct their core functions efficiently into its constituent parts, describing the types of organizational structures and their related issues as well as the advantages and disadvantages of integrating the administration of customs and domestic taxes, the autonomy of revenue administrations, and the main features of a typical revenue authority. The chapter then describes how the digital economy is shaping the relationship between taxpayers and revenue bodies and the consequences for the core activities carried out by tax institutions. The chapter closes by presenting the challenges faced by Caribbean tax administrations and providing recommendations to improve their institutional capacity to collect taxes.

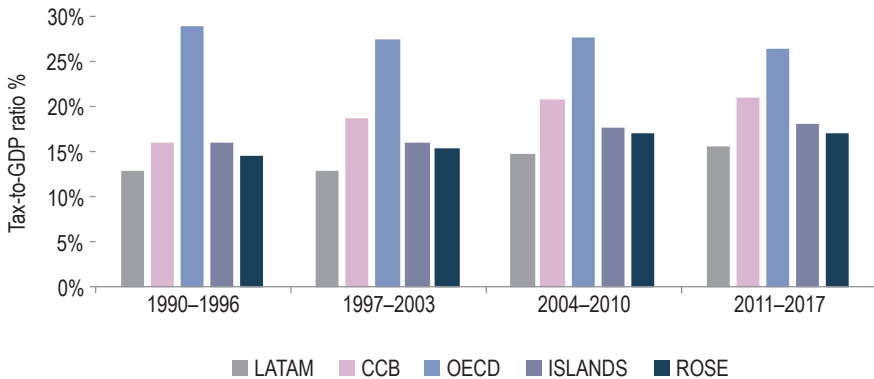
2.1. How Are Taxes Structured in Caribbean Countries?

While the six Caribbean countries analyzed here are treated here as a group, they are, of course, distinct economies with different characteristics and tax structures.⁷ This section begins by laying out useful information on the features of the tax systems and their correspondent tax instruments to put the Caribbean's revenue administrations in perspective.

2.1.1. The Big Picture: Characteristics of Tax Systems in the Caribbean

The most traditional comparison between tax systems is the tax-to-GDP ratio, which is widely used as a starting point to rank tax efforts among countries.

⁷ Within the Caribbean, The Bahamas, Barbados, and Jamaica are tourism-dependent economies, while Guyana, Suriname, and Trinidad and Tobago are commodity-dependent economies.

Figure 2.1. Evolution of Tax-to-GDP Ratios, 1990–2017 (percent)

Source: Prepared by the authors based on IMF (2020) and the Revenue Collection Database of the Inter-American Development Bank and Inter-American Center of Tax Administrations.

Note: LATAM: Latin America; CCB: The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago; OECD: Organisation for Economic Co-operation and Development; ISLANDS: island economies worldwide; ROSE: rest of the small economies of the world.

Figure 2.1 compares the evolution of tax-to-GDP ratios over the last three decades between Latin American countries, island countries worldwide,⁸ the rest of the small economies of the world (ROSE),⁹ member countries of the Organisation for Economic Co-operation and Development (OECD), and Caribbean countries. While Caribbean ratios are consistently above those of Latin America, island countries, and ROSE, they are significantly below those of OECD countries, by roughly 30 percent. The big gap between OECD and Caribbean countries is partly due to structural differences between regions related to labor informality and the shadow economy,¹⁰ productivity,¹¹ transparency, and corruption that have shrunk critical tax bases over time (Ter-Minassian 2012). In addition, tax systems are fragmented, and the tax structure is characterized by high statutory tax rates but low effective rates due to constant tax competition among Caribbean countries (especially

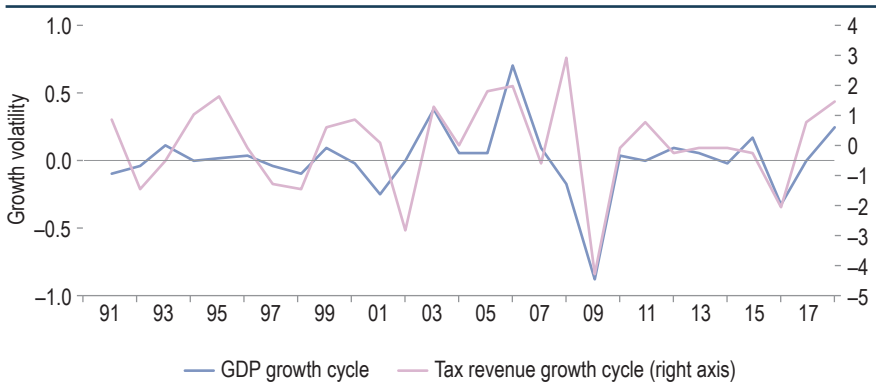
⁸ It does not include Cyprus, United Kingdom, Ireland, Greenland, and Japan.

⁹ Defined as countries with populations of less than 3 million. This analysis includes an extended sample with some small African economies that are dependent on commodities.

¹⁰ In the Caribbean, shadow economies are a recurrent problem. Suriname and Jamaica respectively report 42 and 38 percent of GDP related to underground activities (Amos 2017).

¹¹ According to Dabla-Norris et al. (2019), there are two relatively undisputed stylized facts on the relationship between tax evasion and productivity: first, tax evasion is higher in poor countries, and second, tax-evading firms tend to be less productive.

Figure 2.2. Tax and GDP Growth Volatility in Caribbean Countries, 1991–2018 (weighted average)



Source: Prepared by the authors based on IMF (2020) and the Revenue Collection Database of the Inter-American Development Bank and Inter-American Center of Tax Administrations.

in tourism-dependent countries) that has resulted in the proliferation of exemptions, incentives, deductions, allowances, discretionary waivers,¹² reduced rates,¹³ and zero rates beyond the standard value-added tax (VAT) feature of zero-rating exports. All these factors have created a complex tax system with high levels of tax expenditures that not only erode the tax base but also cause severe distortions and inefficiencies, promote informality, and reduce fairness and transparency (Reyes-Tagle, Ruprah, and Campodonico forthcoming). Tax expenditures increase taxpayer compliance costs and significantly complicate enforcement activities.¹⁴

In the Caribbean, tax revenues are subject to high volatility linked to external shocks and cyclical changes in output. Excessive reliance on a few commodity exports, combined with narrow tax bases, has exposed these countries to the risk of increased revenue volatility, and, ultimately, lower tax collection. Figure 2.2 displays the tax and GDP growth volatility for Caribbean countries. Tax volatility is linked to high revenue dependency from income taxes in Caribbean countries given their exposure to external environment performance (tourism, oil prices, natural disasters, etc.),

¹² Discretionary waivers are tax reductions granted by a ministry or other high-level authority mainly used to reduce import tariffs, excises, and the VAT. Most of these discretionary waivers are, to a certain extent, system-induced, due to high import tariff rates.

¹³ Rates below the standard rate.

¹⁴ A tax expenditure is any provision that results in a reduction of a tax for a specific type of taxpayer, or that has the effect of foregoing any activity that could create potential tax revenue.

which impacts directly on GDP. In line with Ossowski and Gonzales (2012),¹⁵ the analysis for this chapter finds that revenue volatility affects Caribbean countries, with an even higher impact on commodity-driven countries than tourism-dependent ones.¹⁶ As in other regions, volatile energy prices have created shaky tax revenue fluctuations for resource-dependent countries, which explains why Trinidad and Tobago is the most volatile Caribbean country in terms of tax revenue collection. This effect seems to be more intense in Caribbean than in ROSE economies, where tax revenue in commodity-driven economies is 70 percent less volatile than in Caribbean, and there is no marked difference between tourism- and commodity-driven economies in terms of volatility.¹⁷

Volatility exacerbates the low capacity of ministries of finance and revenue bodies to generate information and periodic inputs to forecast revenues, increasing the risk of unforeseen fluctuations in tax revenue that can disrupt public services and contribute to overall fiscal instability. In this context of volatility, weak tax administration heightens the problem by hindering horizontal equity—the extent to which taxpayers in similar circumstances are subject to the same tax burdens—and generating economic inefficiencies, notably through the damaging effect of creating the perception that the tax system is “unfair.” The economic and social consequences of weak tax administration have led many countries to implement quick tax policy fixes that not only do not resolve the problems but also perpetuate a perverse, vicious circle.

2.1.2. What Lies Beneath: Revenue from Different Taxes

Any strategy to monitor tax compliance and allocate revenue administration efforts ought to include the number and relative importance of different taxes in overall revenue collection. In Caribbean countries, the number of taxes collected ranges between 9 in The Bahamas to 24 in Jamaica and Trinidad and Tobago (Table 2.1). Some of these taxes are

¹⁵ The authors estimate the volatility of total revenues to be 60 percent higher and that of non-resource tax revenues to be 27 percent higher in resource-rich Latin American countries than in the rest of the region (Ossowski and Gonzales 2012).

¹⁶ The coefficient of variation of tax revenue was 43 percent higher in Caribbean commodity-driven economies than tourism-driven economies for the period 1990–2018.

¹⁷ As a measure of volatility, we use a simple analysis of the standard deviation and the coefficient of variation of the average growth rates of the tax-collection-to GDP ratio for both groups of countries. A coefficient of variation of 0.073 was found for Caribbean commodity-driven economies versus 0.023 for the same group in ROSE. The coefficients of variation were 14.31 and 4.49, respectively.

Table 2.1. Estimated Number of Taxes Collected in Caribbean Countries, 1990–2018

Tax Type	BS	BB	GY	JM	SR	TT
1. Income tax	0	4	7	7	5	6
1.1 Personal income tax		1	2	2	2	3
1.2 Corporate tax		1	1	2	1	3
1.3 Other		2	4	3	2	
2. Property tax	1	4	1	2	2	1
3. Goods and services	6	8	2	9	12	11
3.1 Value-added tax	1	1	1	1	1	1
3.2 Specific taxes on goods and services	5	7	1	8	11	10
4. Trade taxes	2	1	3	4	2	2
5. Others	0	0	4	2	1	4
Total	9	17	17	24	22	24
Specific Taxes on Tourism and the Oil-Mineral Sector						
Tax Type	BS	BB	GY	JM	SR	TT
Tourism and entertainment	3	2	2	3	3	3
Commodity-related taxes	0	0	2	2	1	4
Total	3	2	4	5	4	7

Source: Prepared by the authors based on IMF (2014).

Note: In the table, trade taxes and specific taxes for The Bahamas and Barbados, such as excise taxes and import duties, were included in only one category. However they include many tariffs on different goods and services. Other taxes for Trinidad and Tobago include petroleum taxes established by the Petroleum Profit Tax Act, as well as other taxes and levies. The grouping of specific taxes on commodities and tourism is based on items reported during 1990–2018, when specific taxes were disaggregated. In the case of Jamaica, the count includes the specific corporate taxes on bauxite and alumina that were active until 2012. Commodity-sector-specific taxes for Guyana include the tributers tax and the specific tax for gold and diamond miners. For Suriname, the average is for 2015–2016; for the rest of the countries it is for 2007–2011.

sector-specific (e.g., tourism, oil and gas sectors), costly to administer, and do not broaden the tax base (Figure 2.3). As highlighted by PA Consulting Group (2006, 23), “the net consequences of taxes on travel and tourism can be negative in terms of depressing demand when they pass a certain threshold.”

Some authors link the number of taxes to administer to the complexity of the tax system, since a higher number generally implies a more complex and cumbersome process for revenue bodies. This is particularly important when comparing the composition of tax revenues among Caribbean countries. Figure 2.4 reports the overall importance of income (corporate and personal) and consumption taxes for Caribbean countries, accounting for roughly 75 percent of total tax revenue collection. As important as they are, these two taxes have different weights within Caribbean countries (Figure 2.5). For example, The Bahamas, which has

Figure 2.3. Total Revenue Administration Expenses as a Percent of Tax Revenue (Customs + Domestic Taxes)

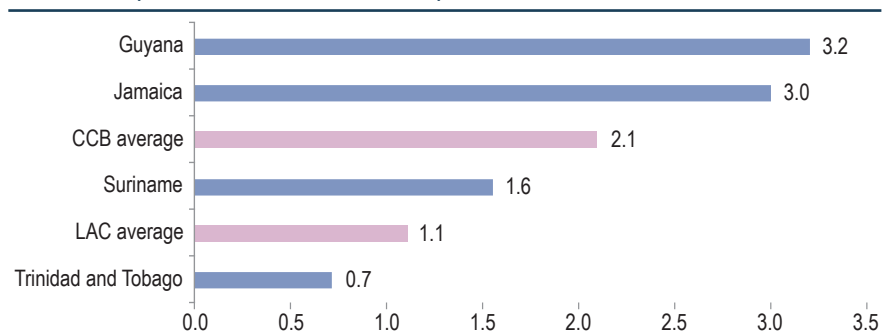
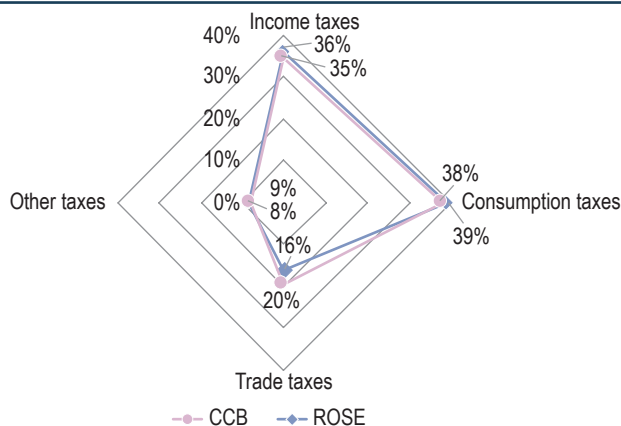


Figure 2.4. Revenue Distribution by Tax as a Percent of Total Tax Revenue, 1990–2019



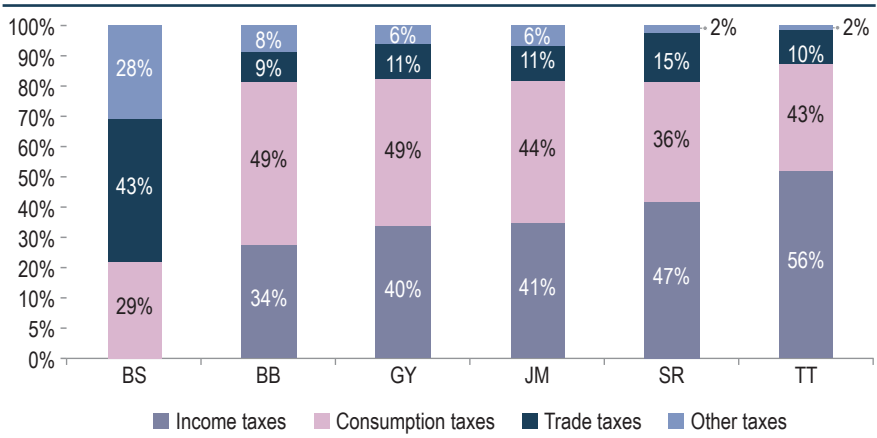
Sources: Prepared by the authors based on the 2019 Revenue Collection Database of the Inter-American Development Bank and Inter-American Center of Tax Administrations; for Suriname, the source is the Ministry of Finance.

Note: CCB: The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago; ROSE: rest of the small economies of the world.

no income tax,¹⁸ relies heavily on trade taxes (accounting for 43 percent of the total tax revenue) in the form of numerous statutory rates and tariffs. Something similar happens in Barbados, although trade taxes account for 9 percent of total tax collection. Meanwhile, Trinidad and Tobago, Suriname, and Guyana collect the most from income-based taxes. Heavily invested in nonrenewable commodity exports, these three countries rely on a corporate tax, mostly collected from companies engaged in

¹⁸ Instead of an income tax, the country imposes business and professional license fees, which account for 14.7 percent of total tax revenue.

Figure 2.5. Revenue Distribution by Tax and Country as a Percent of Total Tax Revenue, Average over 1990–2018



Sources: Prepared by the authors based on the 2019 Revenue Collection Database of the Inter-American Development Bank and Inter-American Center of Tax Administrations; for Suriname, the source is the Ministry of Finance.

Note: For Suriname the analysis was restricted to 2012–2018 due to the availability of information.

these activities. In some cases, the dependence on commodity revenues has delayed efforts to diversify the tax base. Note that Suriname is the only Caribbean country that does not have a VAT.¹⁹ In contrast, Figure 2.4 also shows that consumption taxes are critical in Caribbean countries that are not dependent on the export of commodities. For example, in Barbados, 49 percent of taxes come from the VAT, while in Jamaica, it is 43 percent.

2.2. The Relevance of Tax Administrations: Good Practices

The primary goal of a good tax policy design is straightforward: the tax system should be fair—that is, all taxpayers pay their rightful share—and easy to understand, administer, and comply with. At the same time, a fair system is one in which enforcement is transparent, competent, and effective. To achieve this, the tax system must have an adequate tax administration that collects not only needed revenue but also achieves essential policy objectives—indeed, a task that is easier said than done.

¹⁹ To modernize its tax system, Suriname has planned over the past few years to replace its current sales tax with the introduction of a full-fledged VAT. Unfortunately, the VAT has not been implemented yet, despite the pressing need to increase tax revenue and improve taxation on consumption. Introduction of the VAT is now scheduled for 2022 according to the authorities of Suriname.

This section first looks at the relationship between tax policy and tax administration and how the long sequential approach between these two critical aspects of the tax system has been put to the test in the last couple of decades. The section also covers the governance models that should prevail and how they should be complemented with an organizational structure that allows revenue bodies to perform their core activities effectively.

2.2.1. Tax Policy and Tax Administrations: Trying to Find the In-Betweens

The rate at which tax revenues increase over time depends on the tax structure, the quality and capacity of tax administration, and the pace and nature of the country's economic growth (Bird and Wilkie 2012). But exactly how important is tax administration for the tax system as a whole? The literature on tax issues highlights the interaction between tax policy and tax administration. Traditionally this interaction has been viewed as a hierarchical model of tax compliance in which policymakers design tax policies and delegate the responsibility of collection to the tax authority. Under this approach, constraints to taxation focus on the limits imposed by incentive constraints— asymmetric information, unclear drafted laws, or politics. Rarely is higher tax revenue linked to the administrative capacity of the state (Besley and Persson 2014). However, this approach has been increasingly challenged by a greater recognition that tax systems are as dependent upon enforcement as they are on tax policy (de la Feria and Schoeman 2019).

Tax administrations with serious institutional challenges will find it harder or impracticable to implement tax policy reforms, turning these efforts into futile exercises. Ineffective tax enforcement will most likely distort competition in favor of those activities for which the paying of taxes can be avoided (Tanzi and Casanegra de Jantscher 1987). Thus, in practice, and beyond what tax laws may prescribe, taxpayers engaged in activities with income that is difficult to hide (e.g., salary earners) will be penalized because they will pay a larger-than-intended share of taxes (Beuermann and Pecha 2018).

Any attempt to identify tax compliance issues requires not only an evaluation of the capacity of the revenue administration but also an overall analysis of the tax system. Unfortunately, it is common to find that “good tax policy theory leads to bad practice” (Aaron and Slemrod 2004), which is intrinsically related to the complexity of the tax system and the lack of robust institutional capacity of the tax

administration.²⁰ One way to tackle the complexity of the tax system is to establish a scheme with a reasonable registration threshold that requires regular filing and payment of major taxes for taxpayer groups (large and medium taxpayers). This practice will not only reduce the tax administration's workload and make it easier for these taxpayers to meet their obligations, but will also encourage higher compliance rates (Tanzi and Casanegra de Jantscher 1987).

Improving the effectiveness of a revenue administration includes empowering it legally and politically. Revenue bodies in many countries operate under outdated institutional frameworks that need new laws and tax codes that could speed up the process to enforce tax collection without putting taxpayers' rights at risk.²¹ Legal reforms that allow the administration to use modern technologies (which taxpayers are of course already taking advantage of) are also highly desirable. Moreover, most countries, including developed ones, have their legal framework for taxation spread across a series of tax laws with their own set of provisions for the revenue bodies, which are usually supplemented by numerous regulations. This can cause difficulties for both tax administrations and taxpayers typically caught in the middle of inconsistencies and contradictions. Instead of different tax laws for each tax type, the international best practice is to enact a single comprehensive and coherent tax code that incorporates all legal aspects of taxation into one piece of legislation. The tax code should include all national taxes, social insurance contributions, and specific taxes on the processors of minerals and other commodities (Jacobs et al. 2013).

A clear example is Estonia, a country with roughly the same population as Trinidad and Tobago. Estonia has a neutrally structured tax system with relatively low tax rates and a stable tax administration capacity to implement tax reforms. The country's tax gap is only 5 percent of GDP, with 99.8 percent of tax obligations met during the same calendar year.²²

²⁰ Following Gale and Holtzblatt (2000), the complexity of a tax system is defined as the sum of compliance costs (faced by taxpayers) and administrative costs (faced by the government). The former includes time spent by taxpayers preparing and filing tax forms, learning about the law, maintaining record-keeping for tax purposes, etc. The latter includes costs related to the budget of the tax collection agency and the tax-related budgets of other agencies that help administer tax programs.

²¹ For example, the taxpayer profile has changed substantially. In the digital economy, business models are significantly different from the traditional brick-and-mortar business model, so planning opportunities in the digital space are used by technology companies in different ways.

²² The tax gap is the difference between taxes paid and taxes owed to the tax administration. This gap can exist for three basic reasons: taxpayers may report less than their full tax liability on their return (underreporting), pay less taxes than owed (underpayment), or simply not file a tax return at all (non-filing).

Other successful cases include many of the tax administrations in OECD member countries, as well as China, Malaysia, and Russia. In Latin America, Chile, Peru, and Mexico have seen positive developments, as has Jamaica in the Caribbean region. A key ingredient behind these successful cases has been the governance framework put in place for revenue agencies.

2.2.2. Semi-Autonomous Revenue Agencies: Are They Worth It?

There are two models of revenue administration: (1) a framework under which revenue bodies are within a department, directorate, or unit within the Ministry of Finance (MoF) and (2) unified semi-autonomous bodies, such as semi-autonomous revenue agencies with a board, personnel systems outside civil service purview, and self-financing mechanisms (often a given percentage of revenue collections).

The relevance of autonomy in tax administration has been widely extolled in the literature (Crandall 2010; Chan, Lo, and Mo 2006; Devas, Delay, and Hubbard 2001). There has also been a growing trend to separate tax administration from the MoF, especially in the last two decades (Kristiaji and Poesoro 2013). The main reason is that tax administrations under a department or directorate within the MoF typically face administrative limitations that affect their operations and flexibility (lack of budgetary autonomy and control over staffing, limitations on procurement, and a limited capacity to adopt and acquire technological systems and implement reforms and operational policies, among others). However, some authors suggest that establishing arrangements and reforms to improve tax administration do not necessarily require autonomy and could well be adopted under traditional tax administrations (Joshi and Ayee 2009). For example, the Estonian Tax and Customs Board (ETCB) is a single directorate in the MoF that, despite having a relatively limited overall degree of autonomy compared to other European tax administrations, has high levels of performance on most indicators surveyed by OECD (2019a). Furthermore, the ETCB being attached to the MoF has not been an impairment to advance reforms (especially in digitalization) that have been hailed by the literature as successful.²³

The basic principle behind a semi-autonomous revenue agency is that its autonomy can lead to better performance by removing impediments to effective and efficient management while maintaining appropriate

²³ See Pētersone and Ketners (2017), Strielkowski, Gryshova, and Kalyugina (2017), and Kästik (2019) for more information about the Estonian experience.

accountability and transparency (Crandall 2010). According to OECD (2019a) semi-autonomous bodies have a higher degree of autonomy than administrations that operate within a ministry (92 versus 83 percent). A robust semi-autonomous revenue agency reduces political interference in revenue administration operations, providing more financial and administrative flexibility, capacity, responsibility, and accountability for managers.²⁴ It also helps the revenue administration attract qualified staff.

Human resources are a fundamental pillar of sound revenue administration, and greater autonomy for those personnel is one of the advantages often attributed to the establishment of a semi-autonomous revenue agency. A well-trained staff is essential for daily activities such as fraud detection, tax assessments, legal processes, information technology (IT) development and maintenance, etc. In practice, finding, retaining, and incentivizing staff in tax administrations has been a real challenge. There is not only high turnover of personnel moving from tax administrations into private sector companies, but also a scarcity of competent candidates to fill technical positions. To overcome these problems, it is necessary to establish a comprehensive policy for the administration of human resources. For example:

1. *Professionalism.* Tax administrations need a well-defined merit-based system to select and promote personnel, coupled with a salary scale that establishes equitable differences in pay based on different levels of job complexity. Staff should be trained regularly, and also regular performance evaluations should be conducted to get feedback on the training programs.
2. *Integrity.* A code of ethics needs to be implemented and strictly enforced across the entire revenue administration. Corrupt officials should be properly sanctioned upon completion of an investigation following due process.²⁵ Further, information on sanctioned or

²⁴ Typical powers of a semi-autonomous revenue agency include budget expenditure management; organization and planning; performance standards; personnel recruitment, development, and remuneration; information technology; tax law interpretation; enforcement; and penalties and interest.

²⁵ Corruption has significant impacts on tax collection. In fact, “more corrupt countries collect fewer taxes, as people pay bribes to avoid them, including through tax loopholes designed in exchange for kickbacks. Also, when taxpayers believe their governments are corrupt, they are more likely to evade paying taxes. Overall, the least corrupt governments collect 4 percent of GDP more in tax revenues than countries at the same level of economic development with the highest levels of corruption” (Gaspar et al. 2019).

dismissed officials should be made public to serve as an example for the community of taxpayers, as well as for the revenue administration's employees.²⁶

3. *Accountability.* Tax administrations should follow the principle of delegated responsibility (Schlemenson 1992), under which employees in each level of the organization operate based on the delegation of explicit objectives from their superior. Superiors should clearly define goals, including how they should be accomplished in terms of quantity, quality, and time required for compliance. Staff will then be accountable for those goals.
4. *Performance.* In general, there have been improvements in institutions when there are mechanisms and systems in place to evaluate staff performance (Crandall 2010). Employees should be evaluated by their immediate superiors according to a set of key performance indicators that rate compliance. Such a system yields many rewards, including employees who understand the expectations for their roles and receive promotions when they are merited based on the indicators—plus, of course, increased productivity of the organization.

This ring-fencing of the revenue administration aims to improve the performance of the tax system. It also sends a strong message that an independent authority can commit to a fairer and less discretionary collection process. The administration and support functions in a semi-autonomous revenue agency are the responsibilities of either a commissioner, director-general, or oversight management board. The board's functions are to oversee the agency's operations and approve internal policies and strategic plans to ensure that objectives are met in line with the rule of law, integrity, and professionalism. Board decisions include funding and human resources policies, accountability rules, and rules for interpreting tax laws and the issuance of regulations (Crandall and Kidd 2010). There has been a slight increase in the number of tax administrations that have chosen to implement management boards in recent years, the reason being that management boards seems to be driven more by wider public sector accountability than by tax-specific approaches (OECD 2019a). Over the past 20 years, many countries have implemented semi-autonomous revenue agencies in their efforts to

²⁶ See Ferraz and Finan (2008) for evidence on the effects of making corruption audits public. In addition, see Beuermann and Pecha (2018) for evidence on how corruption affects trust in institutions and tax compliance.

improve tax compliance,²⁷ change the institution's culture, recruit qualified staff (through competitive salaries), and strengthen accountability and performance of tax administration. According to Junquera-Varela et al. (2019), the institutional trend has favored the creation of semi-autonomous revenue agencies, especially in Latin America, Africa, and Eastern Europe. Yet, there are many tax administrations worldwide that are still part of the MoF.

Some studies link the introduction of semi-autonomous revenue agencies to increasing collection in the short run by between 4 and 10 percent of total revenue, but the effect diminishes over time (Dom 2019; Devas, Delay, and Hubbard 2001; Ahlerup, Baskaran, and Bigsten 2015). Sarr (2016) suggests that there is considerable cross-country heterogeneity, with positive impacts in terms of revenue in Argentina, Bolivia, Malawi, and South Africa, but negative impacts in Kenya, Peru, Republic of Tanzania, Venezuela, and Zambia (in these countries, according to the author, revenue collection would have been higher if the semi-autonomous revenue agency had not been established). In some sub-Saharan countries, the introduction of a semi-autonomous revenue agency appears to be preceded by a temporary drop in the tax-to-GDP ratio, and the evidence seems to show that having such an agency alone is not a silver bullet to a country's revenue administration quandaries (Dom 2019). Other authors such as Di John and Putzel (2009) stress the importance of the political context for the effectiveness of semi-autonomous revenue agencies. A low tax-to-GDP ratio, corruption, tax evasion, and organizational and administrative inefficiencies will not be automatically fixed by a semi-autonomous revenue agency. Having such an agency can help by establishing a platform from which change can be facilitated, but its initial impact and longer-term successful performance depend on the mettle of the authorities to pursue real changes, the strength and quality of the agency's leadership, and sustained public and private sector support (Mann 2004). Such an agency also needs clear organization in terms of processes and procedures related to its core activities.

2.2.3. Integrating Customs and Tax Administration

In terms of organizing customs and domestic collection, most countries follow either an integrated approach, under which a single organization

²⁷ Such reforms have been instituted in a number of countries worldwide (i.e., OECD countries, Malaysia, New Zealand, Singapore, South Africa, Uganda, Bolivia, Guatemala, Jamaica, Mexico, and Argentina).

groups all revenue functions, or an independent approach, under which separate organizations oversee collecting customs and domestic taxes. Since 1990, some countries have adopted an integrated approach to customs and tax administration. However, as of 2010, only nine OECD member countries had integrated tax and customs operations within a single agency or directorate (OECD 2011).

One of the main reasons for merging tax and customs administration is its potential to enhance effectiveness through integrated revenue collection and services, as such integration not only improves the government's ability to keep track of taxpayer information but also alleviates the tax burden on taxpayers (World Bank 2010). Likewise, according to the OECD (2011), the rationale for merging tax and customs administrations is often based on (1) perceived synergies with customs operations that are responsible for the collection of the VAT on imports, (2) efforts to obtain economies of scale by combining operational functions in revenue collection, and (3) historical factors associated with the separation of direct and indirect tax administration that are no longer considered important.

The international experience offers some successful case studies such as Canada and the United Kingdom's Her Majesty's Revenue and Customs (HMRC). The key factors behind this success were careful project and management planning, which provided a clear overall vision and principles to guide the process; the persistent commitment of senior management to achieve the best outcome, even if not necessarily in the shortest time possible; effective communication with stakeholders and employees at all levels; and a clear commitment to accountability. In contrast, other efforts to integrate tax and customs authority did not work out well and faced major challenges related to the responsibility for non-revenue services, such as securing borders and facilitating the flow of legitimate trade and travel, both typically customs responsibilities. Some examples of possible risks during integration were lack of leadership (e.g., Hungary), rushing into a merger with little preparation and no communications strategy (e.g., Colombia), lack of staff support (Latvia), lack of public acceptance (Colombia), and losing sight of strategic objectives owing to various setbacks (e.g., Hungary and, to a lesser degree, Romania) (World Bank 2010).

The circumstances outlined below are critical to deciding whether to integrate or keep tax and customs authorities separate:

- There are often disparities between the two authorities regarding administrative, operational, and control procedures that have an impact on the level of effectiveness they can achieve. Integration allows for the transfer of experience and technological knowledge

of one of the agencies to the other through high-performing officials.

- Even though revenue collection procedures and processes can be similar in both entities, customs functions relating to the regulation of trade flows, prevention of prohibited goods, and contraband are quite different and therefore require maintenance of specialized skills (Khadka 2015).
- Unevenness in the degree of corruption should also be considered. Corruption can be best fought from a single body by honest officials. Of course, corruption can also be contagious, so any integration process warrants the design of an adequate personnel policy, a code of ethics, and strong internal controls.
- Integration will surely increase “aggregated” efficiency by eliminating the redundancy of activities common to both services (finance, purchasing, personnel, legal procedures).
- The challenges posed by a rapid increase in foreign trade are prodigious. Such challenges include pressures to modernize customs to effectively process an increasing number of transactions, and pressures to fight corruption and fraudulent operations.
- It is crucial that customs and domestic tax officials work together on defining systems and procedures—particularly risk analysis—in order to conduct joint audits and internal and external controls and to verify compliance. After all, the overarching objective is to increase “aggregated” effectiveness. In that sense, there are overall gains achieved under the integration approach.

In theory, there is no need to merge customs and tax administrations to achieve the benefits of integration, as the two authorities operating independently can still collaborate and maintain a fluid exchange of information. However, in practice, open collaboration encounters serious obstacles because customs and tax services are conditioned by their historical and cultural traits. They tend to compete and even suppress information. This should not be entirely unexpected, based on the difference in procedures of customs and domestic tax operations—and the characteristics of fraudsters and frauds.

Thriving in a Complex Organization

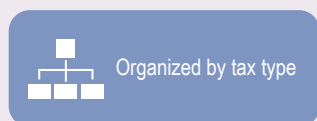
While a semi-autonomous revenue agency’s overall purpose is to increase efficiency through broader administrative and financial independence, its introduction alone does not guarantee a sustained impact on tax collection. Therefore, in addition to the issues addressed by semi-autonomous

revenue agencies, it is crucial to cover challenges related to the core processes and procedures performed by tax administrations. Challenges arise based on the way revenue administrations organize their core functions. Some will be organized by type of tax, others by type of taxpayer, others by function (Box 2.1), and still others under a hybrid arrangement.

Whether a small or large number of taxes are administered, it makes sense for even the smallest workforce in the tax administration to be organized in such a way as to maximize efficiency and effectiveness. Separate units by tax type with a full range of administrative functions do not make sense, no matter what the size of the organization (Kidd 2010).

In today's world, many organizational structures of revenue administrations are typically a combination of the function and taxpayer type of organizational form, which often includes a special unit that monitors large taxpayers. For example, the United States replaced the functional organization of the Internal Revenue Service (IRS) with a taxpayer-type division in the mid-1990s. However, early in the 2000s, the government restored the major features of functional structures and combined them with client-type structures. Recently, some countries, including Australia and New Zealand,

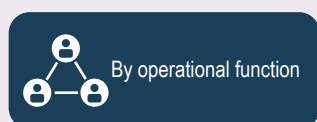
BOX 2.1. TYPICAL ORGANIZATION OF TAX ADMINISTRATIONS



Each department is assigned a tax to conduct all administrative functions related to the tax. This organizational model is highly segregated and as such it is hard to justify despite the size of the country—typically small and micro economies—or by the number of taxpayers. Some countries that extensively worked with this type of model include Dominica and Suriname.



In this organization model, units focus on groups of taxpayers, such as large, medium, or small taxpayers.



Separate departments are responsible for carrying out tax administration functions such as registration, collection, audit appeals. Also, for all taxes, different departments carry out support functions such as strategic planning, IT, legal, general administration, finance, internal audit, and human resources management. Recently, some revenue administrations have changed their organizations to align them with the main processes, i.e., so the organizational chain of command follows the business process.

have also moved away from the wholly functional structure to either the client-type or a hybrid structure, which combines elements of the functional and the client-type, or segmented, structures (Jacobs et al. 2013).

Choosing a single type of segmentation is not a general rule and there are some significant variations in the organizational structures of revenue bodies (OECD 2011). Many tax administrations adapt segmentation approaches to their own needs and particularities, achieving satisfactory results in efficiency and effectiveness. In large countries with large active taxpayer populations, the tax administration implements a headquarters-district/field organizational structure, as is the case with Russia's Federal Taxation Service (FTS). In this type of structure, headquarters plays an overseer role and design staff perform planning and normative roles, while field staff execute work and programs. Finland has not entirely given up the tax-type structure and keeps two units for individual and corporate taxes, along with two other units dealing with collection and customer services while maintaining other units for support services. Estonia and Seychelles integrate customs and tax administration within a single body, following a hybrid approach involving core and support services.

Furthermore, in many cases, less than 6 percent of taxpayers account for around 50 percent of tax revenue collected (Lemgruber 2015), which justifies the establishment of Large Taxpayers Offices (LTOs). This model is considered a good practice and is followed by many countries. It is becoming the most common segmentation strategy to control and provide services to those taxpayers. For example, in 2010, 27 of 34 OECD countries had a dedicated LTO (OECD 2011) and it is the functional organizational structure that prevails in most Latin American countries (IDB and CIAT 2013). There are some advantages of establishing LTOs, as described by IMF (2002) and Jacobs et al. (2013):

- Improvement of risk management and compliance through more targeted audits and taxpayer services that build on particularities and similarities among large taxpayers: size, nature of the business, foreign ownership, complex operations, and international transactions, among others.
- Greater ability to closely monitor those taxpayers who account for the largest proportion of tax revenue.
- More flexibility to appoint a dedicated and fixed management team to oversee all compliance and service operations of the large taxpayer segment.
- Improved transparency through the work of an audit team dedicated to detecting and addressing corrupt practices.

However, setting up an LTO should be considered just one step in the right direction. Improving the effectiveness of revenue administration requires a comprehensive strategy to improve large, medium, and small taxpayer compliance.

2.3. The Search for Revenue Is On: Measuring the Effectiveness of Revenue Organization

The previous section showed the importance of establishing a good connection between tax policy and tax administration, and of implementing the best governance model available for administrative purposes. This section disentangles the core operational functions of the revenue administration that are a necessary condition for the revenue bodies to perform effectively.

To understand the relevance of tax administrations, it is important to analyze their operational performance against an established benchmark. There is a vast literature (Jacobs et al. 2013; Hansford and Hasseldine 2002; Crandall 2010) on best practices for the effective functioning of tax administrations. Most of the recent literature has been developed by international financial institutions such as the IMF and World Bank and other organizations such as the OECD. In addition, some of these institutions have established useful tools to evaluate these institutions. For example, the Tax Administration Diagnostic Assessment Tool (TADAT) is designed to assess the performance of tax administrations based on nine outcome areas. Another useful tool is the International Survey on Revenue Administration hosted at the Revenue Administration Fiscal Tool, which aims to help tax administrations improve their focus on performance measurement and reporting, provide a larger set of revenue administration data for better advice and analysis, and develop data and analysis that allow for cross-country comparisons.

According to the TADAT framework (IMF 2017), there are nine key functions that need to be undertaken by any revenue administration regardless of the type of taxes or economy in which they are levied. Each of them is presented below.

2.3.1. Registry and Tax Database

The first key function for any revenue body is a complete and accurate tax registration system and database. In today's world, information is crucial for decision-making and to carry out daily activities. By law, tax administrations collect, process, and use a lot of taxpayer data and information. Identification and registration are crucial to correctly manage taxpayers' tax affairs and to efficiently conduct all downstream administrative and

operational processes and procedures. Likewise, regular maintenance of the database is important to keep the information updated by allowing for the identification of inactive taxpayers and records.

The quality and integrity of the taxpayer registration and numbering process underpins key operational processes that are related to filing, payment, assessment, collection, and reporting to government entities. A complete and accurate taxpayer database can foster efficiency and effectiveness of the revenue administration by reducing the cost of interactions between the taxpayer and the tax administration through less paperwork and face-to-face interactions.²⁸ In addition to the routine identification of taxpayers, the taxpayer registration database provides valuable information for the conduct of compliance-checking programs. For these and other administrative processes, ensuring the quality of taxpayer identity and location details is necessary (OECD 2020).

The shadow economy in many developing countries is big. But how big is it? A consistent definition of an underground or shadow economy is difficult to pin down because these economies constantly evolve, adjusting to changes in taxation and regulations. While it is hard to come up with a precise number of the magnitude of these activities in the economy, some researchers have estimated the size using a variety of methods. For example, Medina and Schneider (2017) estimate that the overall size of the informal economy is 31.9 percent of official GDP, with countries such as Zimbabwe and Bolivia reporting 61 and 62 percent of GDP, respectively. Among Caribbean countries, the size of the informal sector can be as large as 30 percent of GDP. Suriname and Jamaica report 42 and 38 percent of GDP related to underground activities, respectively (Amos 2017). The existence of such an economy implies that there are unidentified taxpayers whose activities should be taxed; thus, effective identification and registration of taxpayers is useful to reduce opportunities for the informal sector to flourish.

2.3.2. Effective Risk Identification, Assessment, and Management

An effective revenue administration can significantly curtail the effects of a high tax burden and help reduce informality in the economy by adopting a risk-based tax audit system. Traditionally, risks are grouped into

²⁸ Examples of good practices include (1) the use of a unique taxpayer identification number that facilitates routine identification of taxpayers, third-party information reporting and data matching, and exchange of information with other government agencies; (2) a robust IT system that maintains an accurate, reliable database and identifies dormant taxpayers; and (3) a system that ensures that applications for registry are authentic and undertakes initiatives to detect unregistered businesses and individuals.

compliance and institutional risks. The former can impact revenues if taxpayers fail to meet their tax obligations. The latter can materialize when revenue administration functions are interrupted due to internal or external events such as natural disasters, pandemics, sabotage, loss or destruction of physical or virtual assets, IT malfunctioning, etc.²⁹

Assessing, managing, and mitigating these risks are essential to effective tax management because they help revenue bodies achieve equal treatment of all taxpayers, deter non-tax compliance (tax fraud, underreporting/payment, etc.), focus the burden of audit on noncompliant taxpayers, use human, financial, and technical resources more effectively, and increase the level of voluntary compliance. While there is no single approach to identifying, assessing, and mitigating risks, methodologies and standards exist in many reports and guidelines, such as the OECD and the European Union guidelines on how to improve tax compliance through a systematic process to manage compliance risks and maximize taxpayers' voluntary compliance. Box 2.2 provides some examples of good practices in risk-based audit systems where cases for auditing are prioritized according to the level of risk compliance.

The Compliance Risk Management Framework is a systemic approach to managing tax compliance based on the principle that risk should be treated according to the severity and nature of the underlying behavior and designed to influence both current and future behaviors (Chooi 2020). An increasing number of countries are changing their strategies from a traditional data-oriented audit to a risk-based compliance approach that relies on analytics during the assessment process. Revenue bodies in OECD countries, such as the United Kingdom's HMRC, are leading examples. Since its introduction in 2006, a cooperative compliance model used by the HMRC has improved risk management, reduced compliance costs, and substantially increased taxpayer satisfaction (Box 2.3).

2.3.3. Taxpayer Services to Support Voluntary Compliance

While risk assessment is a crucial task of revenue bodies, so is promoting voluntary compliance and confidence in the tax system. Thus, a balance of taxpayer education and assistance, simple laws and procedures, and risk-based verification programs is needed (Russell 2010). In recent years, there has been a change in the exclusive use of deterrence approaches, which often constitutes an expensive process for tax administrations

²⁹ Institutional risks can be subdivided into operational risks (actions that compromise administrative or IT systems, data, processes and procedures); and human risks (due to the absence of capacity or capacity gaps of employees).

BOX 2.2. RISK-BASED AUDIT SYSTEMS

- *Thailand* does not flag returns for those audits related to an error in the tax return or an underpayment due to a tax liability.
- *Mauritius* has a guideline for value-added tax (VAT) repayment claims based on the level of company risk. Low-risk companies can be deemed eligible for a fast-track refund process and the refund is made in five calendar days. Firms assessed at the second level of risk are refunded within 15 calendar days. These claims are subject only to a desk review of the documents without any interaction with the taxpayer. For those cases assessed as high-risk, the tax authority conducts an audit before approving or rejecting the repayment claim.
- *Côte d'Ivoire* introduced an electronic case management system for processing VAT cash refunds.
- The *Organisation for Economic Co-operation and Development* and the *European Union* published a guideline on how to improve tax compliance through a systematic process to manage compliance risks and maximize taxpayers' voluntary compliance.

Source: World Bank (2020).

BOX 2.3. RISK ASSESSMENT: THE CASE OF HER MAJESTY'S REVENUE AND CUSTOMS IN THE UNITED KINGDOM

The risk assessment process takes place when particular sources of information, such as tax returns, are reviewed by Her Majesty's Revenue and Customs (HMRC) to establish whether there is a possible specific tax compliance risk for customers who do not fall under the low-risk category. The focus and nature of the assessment is influenced by a business risk review. As tax and audit specialists identify potential risks based on their risk assessment, they enter those they believe to be worthy of team discussion into the Customer Relationship Management Module, which will calculate a Priority Risk Score (PRS). The PRS is used to determine whether a risk is significant enough to be raised with the customer based on the value, probability, and impact of the potential risk. The HMRC team, including all tax, audit, and other relevant specialists such as transfer pricing specialists, discusses these potential risk areas to determine which should be raised with the customer and what further risk assessment activity, if any, is required.

HMRC expects to have taxpayers seeking a low-risk rating within a reasonable period. In that sense, taxpayers are asked to confirm how they will address any weakness and over what period. The re-review focuses on the issues identified but also takes into account any behavior in the intervening period.

Source: UK government internal manuals on tax compliance risk management, available at <https://www.gov.uk/hmrc-internal-manuals/tax-compliance-risk-management/tcrm1000>.

and does not itself guarantee improved compliance.³⁰ Indeed, in many countries, given the complexity of tax laws coupled with relatively large taxpayer populations, tax administrations must rely greatly on taxpayers' voluntary compliance. For that matter, tax administrations normally adopt a service-oriented attitude toward taxpayers to ensure that they have the relevant information and customer support they need to meet their tax obligations and claim their entitlements under the law and regulations.

Adopting a service-oriented attitude involves designing multiple channels through which taxpayers can access their information and services in a user-friendly, accessible, and understandable manner. The scope of services provided is typically a combination of information, interaction, and transaction. Electronic channels are playing an increasingly important role in a multi-channel service, and most revenue bodies have now made it possible for users to enter secure information and effect transactions. Many tax administrations design and modify their service strategy considering taxpayers' reactions in order to improve channels and design segmentation strategies, so obtaining feedback is important. For example, recognizing customer expectations and needs has been the foundation for channel strategy development in Sweden. By putting emphasis on servicing user needs and recognizing differences among users, the United Kingdom has striven to provide a positive experience (OECD 2007).

In recent years, an even more proactive approach has been adopted by tax administrations that considers that influencing behavior can be less expensive than auditing. Thus, some revenue bodies in the European Union and the OECD have focused on improving knowledge of taxpayers' behavior through qualitative and quantitative analysis tied to users' experiences, attitudes, and actions (e.g., field work, surveys, data analytics, and behavioral and experimental economics). Also, an improved understanding of taxpayer attitudes towards taxation can help tax administrations not only develop stronger and more effective compliance risk treatments, but also improve customer service programs, by providing access to higher-value-added services (Walsh 2012). Evidence of the outcome of such approaches to compliance in Latin America is provided by Eguino and Schächtele (2020), who present new evidence that a non-threatening

³⁰ Standard compliance approaches are based on the idea that taxpayers are rational, and that they assess the cost and benefits of evasion. Thus, if the expected benefits of evasion (keeping their full income) outweigh the cost (being caught and sanctioned), then the optimal strategy would be to evade paying taxes (Becker 1968; Allingham and Sandmo 1972).

behavioral intervention appealing to reciprocity significantly increased tax compliance in Mendoza, Argentina.³¹

Reducing taxpayers' burden and strengthening their willingness to participate fairly by meeting their expectations are also important goals of compliance programs under a service-oriented approach. According to the TADAT framework (IMF 2017), taxpayers expect that the revenue administration will provide summarized, understandable, accurate, and real-time information upon which they can rely in order to meet their tax obligations. In that sense, tax administrations can offer a gamut of services to the taxpayer in a way that simplifies compliance costs and administrative burdens, including (1) record keeping (e.g., single-entry bookkeeping), (2) reporting requirements (e.g., reduced filing frequency, elimination of filing requirements, pre-filing income tax declarations, etc.), and (3) filing arrangements (e.g., pre-filed income tax declarations). Moreover, taxpayers can benefit from greater flexibility in managing their tax affairs when revenue bodies provide an online taxpayer portal that allows them continuous access to registration and tax account details.

2.3.4. Tax Returns

Tax returns (or the filing of tax declarations) are a key function of taxpayer obligations and remain the principal means by which a taxpayer's liabilities are established and become due and payable. It is crucial that all taxpayers required to do so file their returns, including those who are unable to pay the tax owed at the time a declaration is due.

Many countries have opted to move towards streamlining preparation and filing of tax declarations. There are meaningful advantages in doing so, mostly related to time, convenience, faster refunds, effectiveness, and cost savings.³² For example, Table 2.2 compares paper versus e-file tax return processing for the IRS in the United States. The table shows that more steps are involved in processing a paper-filed return than in processing an e-filed return.

³¹ In particular, a redesigned tax bill with fiscal exchange appeal increased payment rates of tax delinquents by about 20 percent, or by almost 40 percent when the bills were delivered in person.

³² Electronic filing drastically reduces processing times because the form is sent in real time; there is no printing of blank return forms or of mailing them to the tax administration. Also, data entry errors are minimized or eliminated because it is an automated system that collects the information on the returns. For example, the Canada Revenue Agency error rate on personal income tax returns due to manual entries and misfiling between 1999 and 2006 was on average 27 percent of total returns filed by taxpayers.

Table 2.2. Comparison of Paper versus E-File Tax Return Processing by the U.S. Internal Revenue Service

Steps	Paper	E-filing
Return Receipt	Returns in sealed envelopes are delivered, opened, counted, and batched by return type. Returns with payments are separated from those without payments, and the payments are deposited.	Saves the costs of manually handling tax returns delivered by mail. It also features an integrated payment option so that electronic funds can be withdrawn from or deposited to a bank.
Review and Coding	Manually reviewed to ensure all forms are attached, completed, and signed. Returns are coded and edited so they can be manually transcribed into Internal Revenue Service (IRS) computers.	Reduces costs from manually reviewing tax returns and eliminates the need to transcribe return data for computer processing.
Computer Processing	A variety of checks is performed to determine if the return data are complete, were transcribed accurately, and are mathematically accurate. Returns that fail these checks are transferred to an error register for correction.	Compared to paper filing, e-filing is far less prone to transaction, math, and other errors because many errors are identified and corrected before the IRS accepts the returns for processing.
Return Numbering	The document locator number is a control number assigned to every return and must be manually stamped on every return.	Allows control numbers to be assigned automatically, eliminating manually stamping numbers on each return.
Master File Posting	Computer tapes with perfected return data are sent to the IRS's computing center, where the data are uploaded to the Master File four weeks after the returns are filed.	Most e-filed returns post directly to the Master File within one week, if not sooner, after the returns are filed.
Audit Screening	Returns are mailed from IRS files to examiners, where they are manually screened to determine which ones warrant an audit.	E-filing facilitates online audit screening and enables returns warranting an audit to be delivered electronically to examiners.
Storage and Retention	Returns are stored at the Federal Record Center for 75 years, requiring a large amount of space to house returns prior to being allowed to legally dispose of the paper returns.	Savings come from not having to store paper returns in the Federal Record Center. Returns are maintained on an electronic storage media, which reduces the amount of storage space needed.

Source: U.S. Internal Revenue Service LB&I Division E-File Project Office.

Errors are also a considerable factor in paper tax returns. In contrast, when taxpayers e-file a tax return, the forms are validated automatically through numerous steps to check for possible errors before the IRS accepts the return. In some cases, countries have opted to treat income tax withheld at source as a final tax, thereby eliminating the need for large numbers of personal income tax taxpayers to file annual income declarations. Once taxpayers have filed, the tax administration assesses the returns to determine their accuracy.

2.3.5. Tax Payment Processing

For obvious reasons, taxpayers are not only required to file their returns on time but ultimately to pay their fair share of taxes in full on time. Under

the tax system, laws, regulations, and administrative procedures are established to specify payment requirements, deadlines, who is required to pay, and payment channels. Many tax administrations worldwide have yet to implement the electronic payment option, and so taxpayers must make payments either at the tax office, government treasuries, or at a commercial bank. The lack of an e-payment option creates bottlenecks for both the taxpayer and the tax administration. For the former, it involves long queues near payment due dates and time spent processing tax payments. For the latter, it implies handling payments at the tax office, which increases the chance of irregularities and illicit actions. It also implies a set of risks in the payment process that are traditionally divided into four categories:

- *Liquidity risks.* These can arise when a taxpayer fails to meet tax obligations on the due date, imposing a loss to the government, which must then implement the arrears collection process against the taxpayer.
- *Operational risks.* These can arise with the possibility of human error, equipment malfunction, natural disasters, or system design flaws that can result in payment errors or incompleteness of the transaction.
- *Security risks.* These risks, which include the risk of fraud, can leave a party subject to financial loss. Security risks include the risk to privacy if the system is hacked and the perpetrator gains access to confidential payment information that can be used to exploit the financial information.
- *Legal risks.* Given that there is a third party involved (the banks), it may not always be clear who the liable party is when something goes wrong.

2.3.6. Reporting

Revenue bodies rely on complete and accurate reporting of information in tax declarations, particularly from business taxpayers. Underreporting of taxes is one of the most important issues faced by tax administrations.³³ It should be mentioned that this is true regardless

³³ In countries where tax compliance is low, withholding schemes have been established under the assumption that large taxpayers comply better than medium-size and small taxpayers. Large taxpayers, it is thought, do not evade taxes by underreporting sales or overreporting purchases as medium-size or small taxpayers might do. Rather, it is assumed that large taxpayers use sophisticated maneuvers, such as transfer pricing arrangements with related companies, thin-capitalization tricks, or loopholes to evade or avoid taxes. Withholding systems have relatively better prospects when, in addition to effective management, the withholding rate is low, say 2-3 percent, and the number of withholding agents is streamlined.

the of tax compliance culture of the country.³⁴ The significance of the underreporting problem can be assessed by evaluating the “tax gap.”³⁵ During the last two decades, the OECD countries made significant efforts to estimate the “VAT gap” (defined as the ratio between VAT revenue and total tax revenue).³⁶ This is important because the VAT gap can be treated as a proxy for the tax compliance gap,³⁷ and therefore for overall revenue administration effectiveness. In EU countries, the unweighted average VAT gap is 12.8 percent. Overall, half of the EU countries recorded a gap below 10.8 percent. The smallest gaps were in Sweden (-1.4 percent),³⁸ Spain (3.5 percent), and Croatia (3.9 percent). The largest gaps were in Romania (37.2 percent), Slovakia (29.4 percent), and Greece (28.3 percent). The unweighted average VAT gap in Latin America is 31 percent. Unfortunately, there is no data available for Caribbean countries (Figure 2.6).

In countries that reduced the VAT and noncompliance gaps, tax administrations rely on capable teams and a strong information system to conduct tax audits. Revenue bodies around the world are performing more tax audits and exerting more pressure on tax enforcement and collection processes. There is evidence in the literature that audits can have substantial deterrent or counter-deterrent effects. For example, in the United States, taxpayers who received additional tax assessments were more willing to report taxable income—on average, 64 percent higher

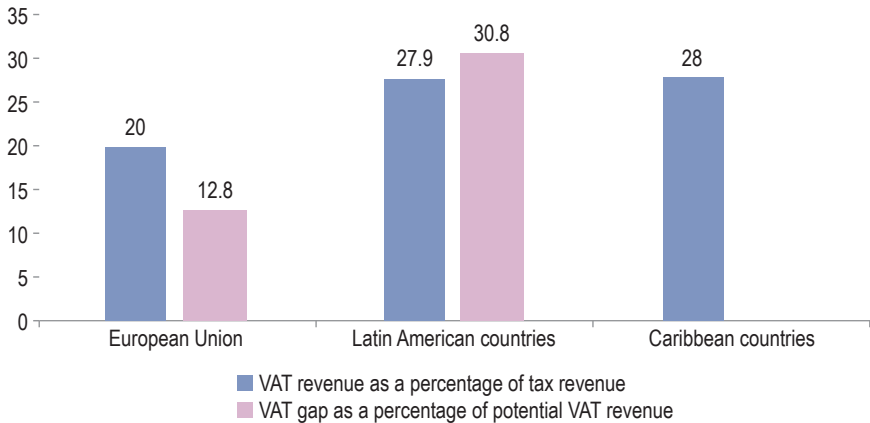
³⁴ Consider what happened in 1987 when the IRS changed one of its rules. Instead of merely listing the name of each dependent child, tax filers were required to provide a social security number. Suddenly, 7 million children—children who had existed only as phantom exemptions on the previous year’s individual income tax returns (1040 forms)—vanished. This represented about 1 in 10 of all dependent children in the United States (Levitt and Dubner 2009).

³⁵ The tax gap is the difference between the amount of tax revenue actually collected and the theoretical amount that is expected to be collected assuming perfect compliance according to the tax laws (Hutton 2017).

³⁶ Given the complexity of the task, the United States is one of the few countries that regularly estimate the income tax gap. In September 2019, the IRS released the tax gap estimates for individual income taxes, corporate income taxes, and employment taxes for the tax years 2011, 2012, and 2013. The aggregated noncompliance gap rate for these taxes was approximately 16 percent, which remains substantially unchanged from prior years.

³⁷ The gap is not strictly equivalent to VAT underreporting because it can be influenced by tax arrears/delays in paying VAT refunds, or reporting problems in national accounts.

³⁸ There are three possible reasons for a negative VAT gap: (1) use of cash versus accrual revenues, (2) underestimation of gross fixed-capital-formation liabilities, or (3) incompleteness of national accounts.

Figure 2.6. The Value-Added Tax Gap, 1990–2017 (percent)

Source: Authors' calculations based on OECD et al. (2019) and information from the IDB's Caribbean Country Department.

Note: VAT: value-added tax. Unweighted averages for Latin American and Caribbean countries.

in the first year after the audit—than in the absence of the audit. In contrast, those taxpayers who did not receive an additional tax assessment underreported taxable income by approximately 15 percent the year following the audit (Beer, de Mooij, and Liu 2019).

One way to improve the quality of audit work is to systematize audit findings and automate audit paperwork, which will significantly reduce legal errors and increase the auditor's productivity. Also, the ability to cross-check massive amounts of information is crucial for controlling underreporting. Modern tax administrations use data mining to scrutinize their data and extract useful information—computer programs that carry out this process can find patterns and irregularities that allow the administration to make more accurate predictions.

One way to guarantee data quality is for the tax administration to establish mandatory electronic filing of tax returns and other documentation. E-invoicing is fundamental to reducing noncompliance and developing preventive actions like cross-checking, as it allows for verifying sale transactions in taxpayers' returns by cross-checking suppliers against buyers. Latin America has seen a major improvement in tax compliance since implementation of the e-invoice (Barreix and Zambrano 2018). In addition, Bellon et al. (2019) find that in Peru e-invoicing increased reported firm sales, purchases, and value added by over 5 percent in the first year after adoption. The impact is concentrated among smaller firms and sectors with higher rates of noncompliance, suggesting

BOX 2.4. E-TAX IN ESTONIA

The Estonian Tax and Customs Board uses an electronic tax filing system called the e-Tax. Each year, around 98 percent of all tax declarations in Estonia are filed electronically through the system. Using a secure ID card, taxpayers log into the system and review, change, and approve their data in a pre-filled form. The process typically takes between three and five minutes. Even one-click tax returns have been possible since 2015—the data that are already in the system are displayed for the user along with the calculated result. All that users have to do is click on the confirmation button. In addition to individual income tax claims, other declarations that can be made in the system include (1) an enterprise's declarations for income tax, social tax, unemployment insurance, and contributions to the mandatory pension fund; (2) value-added tax returns; (3) alcohol, tobacco, fuel, and packaging excise duty returns; (4) disclosure of recipients of dividends and payments of equity; and (5) customs declarations.

Source: Estonian Tax and Customs Board.

that e-invoicing enhances compliance by lowering compliance costs and strengthening deterrence.

Some developed tax administrations with a robust information system, such as Estonia (Box 2.4), Norway, and Sweden, send a pre-populated (tentative) tax return to taxpayers so that they can analyze whether the information provided is accurate and complete, or if some data need to be corrected before the return is submitted by the taxpayer. Chile has also introduced this practice. Besides limiting underreporting, this action is an excellent service for taxpayers. For example, in European nations with pre-populated returns, taxpayers routinely report that it takes 15 minutes or less to comply with their annual filing obligations. In the United States, by contrast, the average taxpayer spends eight hours filing personal income taxes each year.³⁹ However, sending these pre-populated returns requires a well-developed system for receiving and processing information that less-developed administrations do not have.

Less-developed administrations can gradually move in the direction of pre-populated returns by providing taxpayers with data that are relatively easy to collect. This might include information on taxpayers' imports, exports, sales to government entities, interest received, sales to large taxpayers, purchases from large taxpayers, or payments received

³⁹ Joseph Bankman, Daniel Hemel, and Dennis Ventry, "Why Filing Taxes Isn't Easy," *Politico*, July 18, 2018 (<https://www.politico.com/agenda/story/2018/07/18/tax-filing-congress-irs-000683/>).

by the administration. The exact information provided will depend on the technical development of a given administration. In addition, establishing an objective selection of taxpayers for audit is very important, since it maximizes the impact of the audit work while minimizing the likelihood of political or other types of manipulation.

2.3.7. Tax Disputes and Settlements

Tax disputes are a resource available to taxpayers who wish to dispute an assessment carried out by the revenue administration. In some countries, tax disputes have proved to be a big challenge because the process is cumbersome, costly, and uncertain, creating serious backlogs that may threaten revenue collection. That is why the global trend indicates a shift towards a more cooperative approach for resolving tax disputes, highlighting the expansion of communication strategies. These include mechanisms tailored to dispute resolution in specific countries based on the quality and capacity of their institutions, tax administration needs, current practice, and legal framework. The process should be based on a clear legal framework that promotes transparency, independent decision-making, and dispute resolution within a reasonable time. Since disputes can arise at any given point in time, it is desirable that they be resolved before the audit is concluded. As pointed out by Thuronyi (2013), the specific ways to avoid disputes before a tax return is filed relate directly to the problem of interpretation of tax laws. If taxpayers have a clear understanding of their obligation, a greater number of them will be inclined to comply.

A well-designed internal administrative process for reviewing tax decisions can contribute to competitiveness and growth by correctly identifying errors in tax management, lowering compliance costs for taxpayers, and enhancing the credibility and legitimacy of the tax regime. Resolving tax disputes within the tax authority is so beneficial that many revenue bodies have made an internal review mandatory before a taxpayer can seek legal recourse. In Germany, a study found that one in five tax assessments include errors, and that the error rate in local tax centers was as high as 50 percent.⁴⁰ The study also found that in 2014, around 3.5 million objections in Germany were submitted to the tax authorities and 4.2 million objection decisions were issued. Only 1.5 percent of these were challenged before a court of law, while in all other cases the internal review process adequately addressed the taxpayers' concerns (World Bank 2017).

⁴⁰ The study was carried out by the German consumer organization Stiftung Warentest in 2000 and published in the consumer magazine *Finanztest*.

BOX 2.5. REVIEW BOARDS AND ADMINISTRATIVE TAX TRIBUNALS

- The Board of Review in *Singapore* addresses appeals to objections lodged against the Comptroller of the Internal Revenue Authority. Its decisions are made by a committee with at least three members. The chairman or deputy chairman of the board must be a district judge or accountant. The other members may be businesspeople or tax experts.
- The *Danish* National Tax Tribunal rules on administrative decisions by the Tax Authority, either with or without an oral hearing, and its decisions can be appealed in local courts of law.
- The Internal Revenue Review Board in *Hong Kong SAR* is an independent tribunal composed of three members that rules on objections to decisions by the commissioner of the Internal Revenue Department. The board's rulings can be appealed to Hong Kong SAR's High Court, but only on questions of law.

Source: World Bank (2017).

In some instances, countries have created tax boards or administrative tribunals comprised of a panel of experts that decide on the validity of each objection or appeal. These boards vary in terms and responsibilities, but if set up properly they can provide a good level of certainty and credibility to the tax system (Box 2.5).

2.3.8. Revenue Management

Once the filing of tax declarations and reporting takes place, it is crucial that revenue collections be fully accounted for, contrasted against original estimates, and analyzed to inform ministries of finance and other relevant government bodies about progress in the revenue forecasting. It is also crucial that verified tax refunds be processed. The end product of the work of revenue bodies is the net amount of revenue collected, which can be credited to the government's revenue accounts (OECD 2011), so the tax administration needs to have a robust system to account for revenue collection and strong inter-institutional coordination with other government bodies to guarantee that the information flows and decision-making takes place with accurate and real-time information.

Best practices call for a holistic revenue management solution—including a system of revenue accounts, tax refunds, and reporting of core tax collections, as well as a specialized analytical unit focused on tax collection trends, revenue yields from audits, and taxpayer behavior, among other features—that provides a single view of the taxpayer, supports multiple

revenue types, and provides input to government budgeting processes, including tax revenue forecasting and estimation.

2.3.9. Accountability and Transparency

The work and research on taxation over the past decade has focused on enhancing accountability and transparency and developing coordinated rules and channels to ensure that taxpayers contribute their fair share to the economy. As revenue bodies and taxpayers enter an era of increased transparency, there is greater demand to use information in real time to support open and cooperative relationships between taxpayers, tax administrations, and government institutions in general, providing paths for greater comfort and certainty and more effective use of resources (OECD 2019c).

Lack of accountability and transparency creates opportunities for tax evasion and underreporting. This can be mitigated by clearly defining the competencies and functions of tax staff while informing taxpayers about tax procedures and their rights, by introducing good reporting systems on the exercise of discretionary powers, and by setting standards. This approach helps to strengthen the accountability of public officials thereby increasing their credibility and, as a result, boosting voluntary compliance by taxpayers (Vegh and Gribnau 2018). Moreover, good governance calls for means to undertake adequate follow-up and for having enforcement mechanisms in place. Therefore, tax administrations must include policies and procedures to detect and deter deviations from legally allowed practices of their staff. All plans and operations should be designed to provide accurate records of all transactions, their underlying motivation, and the offices and individuals responsible for all actions (Jacobs et al. 2013).

Tax administrations should be answerable for the way they use public resources and exercise authority (IMF 2017). For example, publication of activities, results, and plans through regular public reporting of financial and operational performance is a way to share information in an open manner to external and internal stakeholders.

To improve the relationship between taxpayers and tax administrations, several countries have developed a taxpayer's charter (e.g., Australia, United Kingdom). The taxpayer's charter sets behavioral expectations for both the revenue authority and the taxpayer by spelling out the rights and obligations of each and what they can do if not satisfied. The guidelines aim to ensure a balance between the rights and obligations of both taxpayers and tax administration in order to promote practices that are deemed useful to enhance cooperation, trust, and confidence between the parties,

ensure greater transparency, and encourage a more service-oriented approach by tax administrations (Vegh and Gribnau 2018).

Tax evasion practices are not limited to the domestic sphere. In the current scenario of globalization in which a vast number of international transactions take place every day in real time, international taxation is one of the main issues for tax administrations. One of the biggest challenges has been what is known as “base erosion and profit shifting,” where companies move profits to low-tax jurisdictions (OECD 2019b). The importance of these issues should not be underestimated; according to Lagarde (2019), non-OECD countries lose about \$200 billion in revenue per year, or about 1.3 percent of GDP, due to companies shifting profits to low-tax locations. In many countries, addressing these problems implies changes in tax laws in order to tax profits where economic activities take place and value is created.

A related international taxation issue is “transfer pricing,” which refers to the determination of the price and other conditions for the transfer of goods, services, and assets between affiliated companies situated in different tax jurisdictions (Ping and Silberstein 2007). Where goods, intangibles, or services are transferred across borders within a multinational enterprise, transfer pricing can become a way for multinational enterprises to avoid taxes and reduce their tax burden.⁴¹ This practice is an important issue for the national tax and customs authorities that are responsible for overseeing these cross-border flows. To tackle such tax avoidance in line with best practices, tax administrations must adopt provisions in tax legislation, regulations, and prescribed methodologies to establish transfer pricing rules. However, since transactions occur in different jurisdictions it is necessary to follow a common approach. In this sense, many countries have adopted the so-called “arm’s-length principle” proposed by the OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations (OECD 2017).⁴² This principle has become the main international transfer pricing principle applied by OECD countries.

Another international initiative to address tax evasion and illicit financial flows is the Global Forum on Transparency and Exchange of Information

⁴¹ Transfer pricing is a way of allocating profits by manipulating the prices charged on intra-group (within related legal entities) cross-border transactions. This is done in such a way as to maximize taxable profits in low-tax jurisdictions and minimize such profits in high-tax countries (Jacobs et al. 2013).

⁴² The principle states that the transfer price must not be influenced by the relationship between the parties or it must be set in the same way as if the parties were not related.

for Tax Purposes. Over the past 10 years, this forum has encouraged and facilitated international exchange of financial information and cross-border cooperation in three key domains: (1) eliminating bank secrecy vis-à-vis tax authorities, (2) assessing accounting records systems, and (3) ensuring the availability and accessibility of beneficial ownership information. This cross-border exchange of tax information has been made possible through international agreements that have underpinned the initiative. For this purpose, tax administrations around the world have participated in negotiations of tax treaties and tax information exchange agreements (OECD 2001). Since 2002, 518 such agreements have been signed not only by OECD member countries, but also non-OECD members in Latin America and the Caribbean and Asia.⁴³ With the rapid expansion of the network of exchange of information agreements, the flow of information between jurisdictions has also increased (OECD 2019b).

Again, international cooperation scenarios and good governance practices offer solutions for tax administrations to achieve greater transparency and attack illegal practices. However, information exchange cannot reach its potential without an adequate system to receive and analyze large volumes of information. Moreover, illegal practices are hard to avoid without the necessary automation to minimize the risks associated with discretionary and personal interactions. How can tax administrations meet these challenges? The following section provides valuable insights about how strengthening IT systems and embracing digitalization may become the best allies in the fight for transparency and in other important matters.

2.4. The Quest for a Progressive Digital Transformation

The process of digital transformation is a well-planned, hands-on operation that integrates new technology with existing systems and introduces management with empathy toward people and procedures. It is also about adopting new ways to solve problems and deliver business value. While many tax administrations have begun their digital journey, some have embraced the phenomenon of “digital disruption” and advanced significantly. How do they adapt their revenue collection models as the global economy is continually reshaped by transformative digital technologies? Recent trends in the use of digital technologies and information systems have enabled revenue bodies to manage entire project cycles in

⁴³ The detailed list of countries is available at <https://www.oecd.org/ctp/exchange-of-tax-information/taxinformationexchangeagreementstieas.htm>.

an automated, transparent, and timely manner (Weil, Reyes-Tagle, and Eun Heo 2020).

In the Caribbean, tax administrations face significant challenges due to the nascent stages of digitalization. Yet, they can benefit from examining the approaches, successes, and missteps of their counterparts in other countries and regions.

2.4.1. Information Technology

IT is one of the most important support functions for tax administration, and under optimal circumstances it is the best ally in the current context of digital transformation and the delivery of core functions (e.g., facilitating, monitoring, and enforcing voluntary compliance). IT systems usually provide technology support at varying levels, allowing access to a wide range of functions, the most common focused on core processes such as registration, returns, payments, and information storage. Today, modern IT systems also include services to facilitate voluntary compliance through electronic channels such as e-services. Moreover, new solutions such as management and risk information systems are granting access to features to facilitate decision-making. These modules intend to provide timely reports to managers and staff on matters such as performance. Linking all these functionalities and modules in a fully integrated IT system is usually a complex process that tax administrations undertake in different implementation phases that may take a minimum of two years (Cotton and Dark 2017).⁴⁴

Improving and developing IT systems has been a core part of recent modernization reforms in most tax administrations. In 2019, the OECD estimated that IT accounted for more than 50 percent of total capital expenditure of tax administrations and was also an important component of operating expenditure, accounting for 10 percent on average (OECD 2019a). Having said that, selecting IT solutions is not a minor decision (Box 2.6).

2.4.2. Navigating the Tax Challenges in the Dawn of the Digital Economy

New trends in business models that are taking advantage of digitalization also pose a new set of challenges for tax administrations. Unfortunately,

⁴⁴ For further detailed information about the most important modules that make up modern IT solutions, see Jacobs et al. (2013).

BOX 2.6. KEY POLICIES TO BE ESTABLISHED BEFORE DESIGNING INFORMATION TECHNOLOGY SYSTEMS AND PROCEDURES

Key policies should be agreed on before designing IT systems and procedures and, importantly, acquiring equipment and systems. Ideally, planned reforms and modernization efforts should be described in a comprehensive strategic plan that includes the development of IT. This plan should include the key principles to be observed, such as:

- Revenue bodies should move towards paperless administration. Procedures should minimize any contact between taxpayers and revenue administration staff. An ample range of taxpayer services can be provided via the tax administration's website.^a
- Strict security procedures should govern access to taxpayer information. IT systems should be within the government's IT master plan, if such a plan exists.
- Changes in laws, regulations, and organizational structures should be clearly identified.

The decision on which technology best suits a given revenue administration requires a comprehensive evaluation that includes a preliminary process of defining the general policies and features needed for new systems and equipment (Cotton and Dark 2017). However, even once that definitional work is complete, there is yet another crucial question to answer: should the revenue administration develop its own systems in house, or purchase a commercial off-the-shelf solution?

Adopting the in-house approach demands more time and human resources than a commercial off-the-shelf solution but could be less expensive and provide more flexibility. Either approach needs to accommodate several functions, including taxpayer registration, tax return and payment processing, detection of stop-filers, detection and enforced collection of delinquent accounts, risk analysis and other systems to support the audit function, calculation of interest and penalties, online services via the administration website, revenue accounting, case management, and security procedures. Both approaches require a strong team to support the development and implementation of new IT applications. The commercial solution has a predictable cost and well-known features and capabilities. That is a great strength, because the software is not too rigid and can be tailored to business process demands. However, it should be kept in mind that customization comes with the risk of maintaining poor practices.

Usually, the commercial supplier of off-the-shelf products is responsible for developing, implementing, and maintaining the systems and training the staff. That facilitates success because the different areas of responsibility are concentrated in one vendor—dispersion of responsibilities is always a recipe for failure. Clearly, the implementation time required is shorter than that required by

(continued on next page)

BOX 2.6. KEY POLICIES TO BE ESTABLISHED BEFORE DESIGNING INFORMATION TECHNOLOGY SYSTEMS AND PROCEDURES *(continued)*

in-house solutions. Also, while the implementation process is ongoing, the actual operation of the systems can be seen in other countries that already use them, speeding up training time for employees in charge of operating the new systems.

If it is decided to go with a commercial off-the-shelf solution, it is critically important to assure that knowledge is properly transferred from the vendor to the revenue administration, and that a core staff is thoroughly trained in all details of the systems. Otherwise, the administration will be at the mercy of the vendor. Finally, it is important that the revenue administration's facilities and IT infrastructure (including its network and power supply) not be overlooked. They must be carefully evaluated and budgeted for, regardless of which solution is adopted. Resolving issues related to IT infrastructure may demand a significant amount of time.

Source: Authors' elaboration.

^a Paradoxically, the U.S. Internal Revenue Service seems to be going in the opposite direction. A Vox article by Dylan Matthews on April 9, 2019, entitled "A Bipartisan Group in Congress Wants to Make It Harder for You to Do Taxes" stated that the U.S. Congress is set to make it illegal for the IRS to create free tax preparation software that could save millions of Americans from wasting their money on TurboTax or H&R Block.

modern business models create conditions for the emergence of new risks of partial or non-fulfillment of tax obligations by taxpayers. Nowadays, the digital economy fosters conditions to conduct business activities in a more anonymous way than ever before and can help create artificial structures for tax purposes in order to avoid taxation, especially at the international level. For example, taxable corporate profits are difficult to assess under the digital economy because companies can conduct their business virtually anywhere.

Another example is the advent of cryptocurrencies, which facilitates money laundering and tax fraud. It should be stressed that none of the Caribbean countries have an organizational unit or group of qualified staff devoted to evaluating these issues. As a first step, such a group should be set up. Furthermore, digitalization creates loopholes in tax laws that must be closed, particularly those that have created opportunities for base erosion and profit shifting.

In the digital economy, managing risks is crucial. Efficient risk analysis must include a systematic approach to identify and prioritize risks in order to increase the efficiency of tax systems and strategies to manage them. Risk factors associated with the digital economy include the following: (1) the physical location of some sources of income—which helps identify the right tax jurisdiction—is unavailable; (2) the traditional form of control, such as physical control of the flow of goods (people) across borders, does not apply to the online flow of goods (services); (3) most websites can be administered

remotely and be freely moved to other countries, and consequently to other tax systems such as tax havens where particular taxes are levied at a low rate or not at all; (4) the development of new business models that are based on intangible assets are made available through the Internet; (5) it can be difficult to identify entities that provide their services online; and (6) payment systems have developed that operate outside the existing bank systems.

2.4.3. Digitalization for Tax Administrations

Digitalization provides opportunities for tax collectors and taxpayers. For the former, it opens the door to new ways of fulfilling its functions. For the latter, it reduces the time and financial burden and increases transparency. Therefore, digitalization is reshaping the conventional role of tax administrations beyond the basics, allowing them to deliver value and gain a more integrated view of taxpayers by taking interactions to other levels (e.g., offering more effective and targeted taxpayer services through electronic channels) (McKinsey & Company 2018; Ernst & Young 2017).

It is becoming increasingly clear that encouraging digitalization is both a necessity and an opportunity for tax administrations in terms of moving from paper to electronic, from electronic filing to pre-populated returns, and from returns to no-touch and automatic filing. The future is machine-to-machine (M2M), where the tax authorities will crave data, not tax returns. All these innovations are producing mind-bogglingly massive volumes of data like never before that are being transferred at high speeds. In the digital era, tax administrations have seen opportunities for innovation, using digital channels to collect and track information for tax purposes. One of these developments is the introduction of electronic invoicing, an initiative originated in Latin America that has improved tax control—especially regarding the VAT—and benefited taxpayers by lowering compliance costs and accountability (Box 2.7). At the same time, technology has opened a world of personalized and round-the-clock services, and good services are the foundation for voluntary compliance.

The digital transformation process is constantly evolving, and new solutions and innovations usually lead to new processes, uses, and possibilities within a virtuous cycle. An example of this is the extensive use of advanced data analytics,⁴⁵ which is allowing private companies,

⁴⁵ According to OECD (2016), advanced analytics is the process of applying statistical machine learning techniques to uncover insight from data, and ultimately make better decisions about how to deploy resources to the best possible effect. The term “machine learning” refers to how computer algorithms improve automatically through experience.

BOX 2.7. USE OF ELECTRONIC INVOICES IN LATIN AMERICA AND THE CARIBBEAN

An electronic invoice is a document that records an entity's commercial transactions in electronic form and is sent to the tax administration. In all situations and for all actors, an electronic invoice has a standard format within countries with the same purposes as a paper invoice for issuers, recipients, and interested third parties.

Electronic invoicing originated in Latin America in the context of the modernization efforts undertaken by tax administrations in Chile, Argentina, Brazil, Ecuador, Mexico, Peru, and Uruguay over the last two decades. To some extent, electronic invoicing has been a significant step towards more advanced levels of digital transformation and transparency in the region. Mexico stands out for having the highest percentage of taxpayers issuing electronic invoices as a percentage of value-added tax (VAT) taxpayers (94 percent), having electronic invoices account for a high percentage (89 percent) of total invoices issued, and having a high technological standard in the emission of electronic invoices.

Initially, electronic invoicing was conceived as an instrument of documentary control over the invoicing process in order to avert both the omission of sales and the inclusion of false purchases, which allowed tax administrations to have greater control and traceability of transactions (the VAT and income tax). Lately, that original idea has been extended to other areas, such as payroll (Argentina), goods in transit and government procurement (Brazil), and new finance services like factoring (Chile). Moreover, e-invoicing has improved compliance costs and made taxpayers' accounting easier and more efficient (among small and medium-size taxpayers). Regarding revenue collection, in 2018 the amount collected in Latin America through electronic invoices was at least 30 percent of revenue on average, and, if the potential for revenue collection through electronic payroll is included, the share would be close to 65 percent. Recent studies suggest that there is evidence that electronic invoicing has improved tax collection in some Latin America and Caribbean countries (e.g., a 10 percent increase in Argentina between 2008 and 2013).^a

Although the use of electronic invoices is not mandatory (except in Mexico and Chile), it is expected that with the widespread use of electronic invoices other uses such as data cross-reference, data analytics, and international trade can be extended. In Mexico, the Servicio de Administración Tributaria is using graph theory (i.e., mathematical structures used to model pairwise relations between objects) to detect significant contributors and evasion clusters, and to profile different economic sectors, among other uses. In Chile, the Servicio de Impuestos Internos is using analytics to support strategic, tactical, and operational decision-making (e.g., default gap mapping and global and specific risk rating). More countries within and outside the region are thinking about implementing electronic invoicing. For example, projects are under way in Costa Rica, Colombia, Guatemala, Panama, and Paraguay. Some countries in Southeast Asia, especially South Korea, are also considering the introduction of electronic tax invoicing.

Sources: Barreix and Zambrano (2018) and information from the IDB-CIAT web seminar on "Experiences with the Use of Electronic Invoicing and Tax Control," August 5, 2020.

^a Barreix and Zambrano (2018) includes a summary of recent empirical works on the impact of electronic invoices for selected countries (Argentina, Brazil, Ecuador, Mexico, and Uruguay) as well as the work of Karla Hernandez and Juan Robalino, who analyze evidence on the topic in Latin America.

governmental agencies, and other agents to take advantage of the large volume of information generated and transmitted in the Big Data era to obtain valuable insights from data and generate value. Now the question is not only how to go digital but also how to become data-intelligent. This matter is particularly relevant for tax administrations given the magnitude of information they receive.

Several tax administrations worldwide are keeping pace with digital trends and are using data analytics not only to cross-check information with third-party data but also for a wide range of other purposes such as auditing; identifying taxpayer behaviors and preferences to obtain a 360-degree view of taxpayers and deliver better and more targeted taxpayer services; segmenting taxpayers; improving debt management; assessing performance and operations to support decision-making; conducting policy evaluation; developing early warning systems; and fighting fraud and intentional misuse of identity (OECD 2016; McKinsey & Company 2018). Ireland, Malaysia, the Netherlands, and Singapore, for example, apply network analysis to prevent VAT fraud (CIAT 2018).

Not surprisingly, risk detection and audit have been the biggest beneficiaries of advanced analytics in tax administrations. According to OECD (2016), audit case selection was the principal application of advances in analytics techniques, with 15 out of 16 surveyed tax administrations reporting its use for priority cases of audit and to maximize audit value (avoiding unproductive audits and increasing revenue return). Real-time or near-time data analytics are allowing tax administrations to validate and cross-check information (e.g., invoices, withholding declarations, purchase declarations, among others) to identify discrepancies, identify unreported income, and compare data across taxpayers and jurisdictions (especially for the VAT and income taxes). Based on these analyses, some tax administrations are shifting from the traditional audit assessment to real-time “digital audit” (Ernst & Young 2019). Another relevant application is the use of extreme modeling, a way of using prescriptive analytics for case selection that has opened the door for the so-called “intelligent audit.” It involves machine learning to develop an algorithm to identify the predicting factors of a successful audit and recommend the best course of action. However, according to Pijnenburg, Kowalczyk, and van der Hel-van Dijk (2017), analytical techniques for audit selection are still used in isolation and not fully embedded in the supervision processes.

However, with digital transformation, as new possibilities open, new challenges arise. For instance, the ability to generate and receive real-time data means that in some cases the information may not be “clean” or structured. The question remains whether tax administrations are ready to

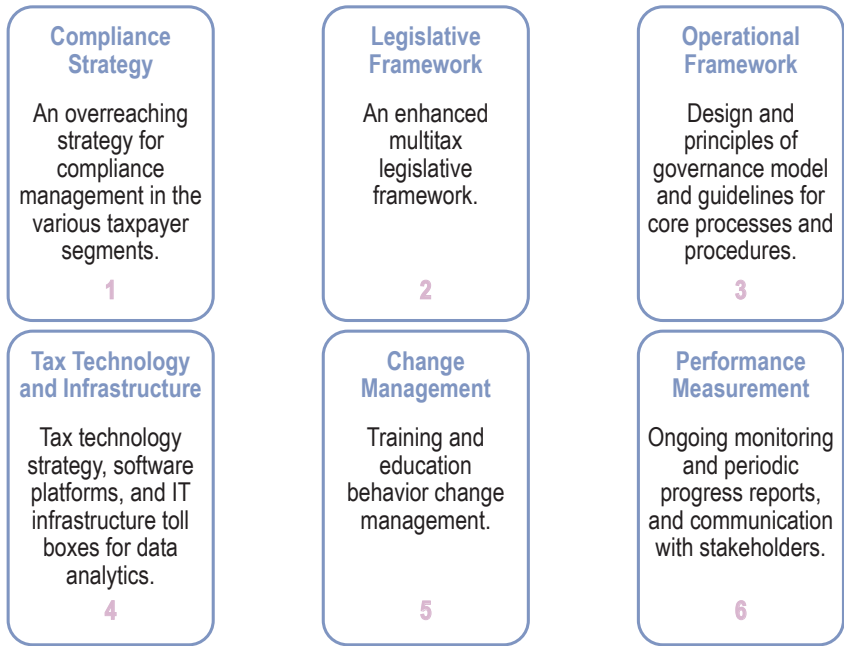
receive large volumes of data, clean them, store them, and use them efficiently and safely. Furthermore, as more timely information is collected and demanded from taxpayers, their expectations to receive faster and timely responses to their requests and inquiries increase, so tax administrations need to be ready to undertake operational changes to meet these demands. Revenue bodies will continue to invest in digital platforms and systems, analytics tools, and software, all of which help to increase their technical capabilities and accommodate taxpayers' digital expectations.

Tax authorities also face the challenge of adopting new technologies in accordance with their capacity to absorb them. Tax administrations around the world are implementing new technologies at different paces. On the one hand, political, institutional, and human capacity constraints hinder government innovation. On the other, innovations sometimes incentivize individual and corporate behavior in directions that might make taxation harder rather than easier. For instance, some European countries have used VAT schemes that involved automated submission of multiple small fraudulent VAT refunds that were too small to attract the attention of the tax administration.

Cybersecurity is another aspect of digitalization that tax administrations need to understand and address. As tax administrations crave more data, additional safeguards need to be put in place to protect taxpayers' rights by securing their personal information and data integrity. For tax administrations, dealing with cybersecurity often involves working with other levels of government. For example, in the United States, tax administrations have established security safeguards to prevent, identify, and attack cybersecurity threats. The IRS, accompanied by the Cybersecurity and Infrastructure Security Agency (CISA), periodically releases cybersecurity safeguards to protect computers, email, and sensitive data available for staff and taxpayers.

Furthermore, there are still numerous difficulties and obstacles beyond IT infrastructure that impede tax administrations from further advancing their digital transformation. These include outdated laws, budget constraints, limited human resources, the need for more technical training, and the inability to respond to time-sensitive operational changes. Figure 2.7 shows the key components that need to be set up and enhanced within tax administrations for a successful digital transformation.

Regardless, digitalization holds considerable promise for enabling the implementation of tax systems that would not be possible without it. Addressing challenges from digitalization requires not only modernizing administrations and improving their relationships with taxpayers, but also increasing international cooperation. To that end, it is worth examining successful strategies from a variety of different tax administrations.

Figure 2.7. Key Arrangements for a Successful Digital Transformation Process

Source: Microsoft and PWC (2018).

Box 2.8 shows some examples of successful digital transformation in tax administrations around the world.

Bearing in mind all the options and challenges in the digital era, what is the best way to start the digital journey? To harness the benefits of digitalization, tax administrations must understand which actions they need to implement to move along the path to successful digital transformation and establish a strategy and a roadmap. Although technology seems to be the primary element, the human factor is also vital (Vuković 2018). Therefore, tax administrations must implement robust change management, workforce development, and institutional capacity-building plans. Coupled with accountability and quality-control measures, this will help them accelerate their digital journey. Below are brief recommendations for steps to advance and welcome digitalization in tax administrations based on best practices (Weil, Reyes-Tagle and Eun Heo 2020):

- Make building and maintaining institutional trust a top priority. Digital transformation presents an environment where change occurs at many levels, so it is necessary to maintain open and continuous communication with staff and promote their engagement.

BOX 2.8. SUCCESSFUL DIGITAL TRANSFORMATION

Belgium. The Belgian revenue administration uses electronic tools to predict debt payment and insolvency risk, which allows the administration to set the right collection enforcement priorities, maximizing the recovery of tax arrears.

Estonia. The need to have high-quality data is confirmed by the Estonian Tax and Customs Board (ETCB), which has one of the lowest collection costs of any country and one of the lowest tax gaps in the world. To take advantage of the massive amount of data it collects, the ETCB developed sophisticated systems and allocated dedicated staff to data quality control.

Ireland. A system has been implemented in Ireland whereby taxpayers can obtain a “tax clearance certificate” online that is required for activities such as participating in public bidding processes or obtaining a license to trade. This is one example of how digitalization of tax administrations can also bring significant improvements to the provision of services to taxpayers. Ireland and other countries have also implemented an online pay-as-you-earn system for employees’ income tax, which reduces the cost of compliance for employers and eliminates data-input errors that would affect the calculation of income tax withholdings and social security payments. Experience shows that these kinds of time- and cost-saving taxpayer services are crucially important for start-up companies and foreign investors.

Norway. The Norwegian revenue administration provides examples of several tools that can be leveraged by administrations everywhere. Hans-Christian Holte, Director General of the Norwegian Tax Administration and Chair of the Organisation for Economic Co-operation and Development’s tax administration forum in 2018, stated in the keynote speech at the forum that Norway “uses social networks to predict fraudulent insolvencies, machine learning to interpret data, chat boxes to improve assessments, and an on-line portal, whereby tax returns can be filed, assessments can be notified, and information on real-estate can be found.”

Russia. The Russian tax authority is using cash registers to get information on retailers’ sales. Currently, more than 2 million points of sale are transferring millions of cash receipts to the Russian revenue administration, which immediately improves compliance with the VAT. This type of system is also being used in Portugal and Ecuador. In all cases, the system improves compliance and also benefits retailers and consumers.

South Korea. Since 1960, the Korean National Tax Service has been increasing the efficiency of tax administration and improving its tax payment services by proactively incorporating information technology and digital platforms into its tax administration systems. Three pillars have been fundamental to the success of this process: (1) a cash receipt system that enables cash purchases to be tracked

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BOX 2.8. SUCCESSFUL DIGITAL TRANSFORMATION *(continued)*

when a customer uses a debit card, cell phone number, or resident registration number when making a cash transaction, as opposed to a customer simply receiving a regular paper receipt; (2) an electronic tax (or e-tax) invoice program that allows for issuing tax invoices digitally and makes the electronic issuance of value-added tax (VAT) invoices mandatory for Korean corporate taxpayers; and (3) an IT system home tax used by taxpayers throughout Korea.

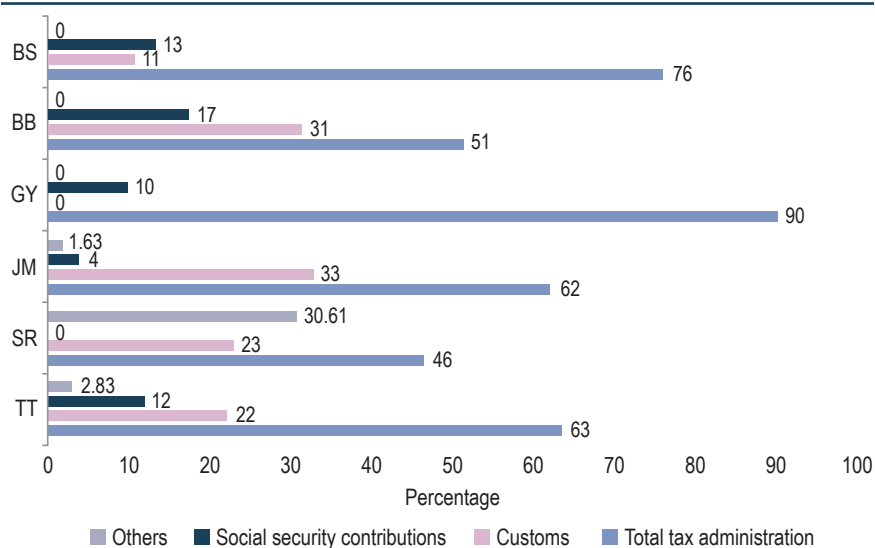
United States. In 2017, the Internal Revenue Service (IRS) established a Data Science Office to combine methods of big data analysis, computer science, statistics, and business in order to support activities to monitor taxpayer compliance. As stated by an IRS computer scientist, “an important part of the work is cleaning up and selecting the data collected (data is more like a garbage dump than a beautiful lake).”

- Outline clear business/operational goals and workflow procedures.
- Establish a proactive workforce development and training program.
- Let new ideas come to life (i.e., develop and harness a digital mindset, encourage experimentation, have teams collaborate with other teams).
- Invest in understanding taxpayer behavior and insights (i.e., reach out to accountants, tax attorneys, and business associations, strengthening relationships with external data collection organizations and surveys, focus groups, and customer feedback).

2.5. Tax Administration in Caribbean Countries

Tax administrations in the Caribbean are responsible for collecting around 65 percent of total government revenue (Figure 2.8). In Guyana and The Bahamas these percentages are as high as 90 and 76 percent, respectively. Bearing this in mind, it is important to analyze and understand the current arrangements and trends that are impacting the effectiveness of Caribbean tax administrations and their capacity to manage and boost these revenues. The following sections address these and other issues considering the best practices studied in the previous sections, with the aim of identifying opportunities to bring tax administrations of Caribbean countries closer to optimal functionality.

Over the last decade, Caribbean countries have undertaken major reforms to modernize their revenue bodies, including reorganizing field operations (i.e., establishing semi-autonomous revenue agencies and

Figure 2.8. Percent of Total Revenue Collected by Type of Tax in the Caribbean

Source: Prepared by the authors based on the IDB-CIAT 2019 database. For Suriname, also based on Ministry of Finance reports and Howell and Reyes-Tagle (2018).

applying a taxpayer segmentation approach); building capacity in core operational areas; upgrading tax systems; moving towards automation; and enhancing institutional operations and performance. One of the most recent and comprehensive works on tax administration reforms in the Caribbean was by Schlotterbeck (2017), who reviewed the reform process undertaken in 20 Caribbean countries with the support of the IMF Fiscal Affairs Department and the Caribbean Regional Technical Assistance Centre (CARTAC). The analysis presented in this section of the chapter draws on many findings from that study and, since it groups several countries together, some of its data have been useful for making comparisons between tax administrations.

Additionally, tax administration reforms have been supported by technical advice from other international financial institutions, including the IDB and the World Bank, which have contributed to the adoption of some best practices and international standards. Since 2010, the IDB has assisted Caribbean countries in the strengthening of their tax bodies by supporting the modernization of tax and customs administrations either through technical cooperation or loan operations. As a result, this analysis is based on some of the reports (internal and public) that have been produced during these interactions. This section also presents data and findings included in Tax Administration Diagnostic Assessment

Tool (TADAT) assessment reports published by the IMF, as well as the current information available on tax administration websites and public sources.⁴⁶

2.5.1. *Tax Policy and Revenue Administration*

As described earlier in this chapter, even in the presence of structural differences between countries, lack of integration, high statutory tax rates, proliferation of exemptions, incentives, deductions, allowances, and discretionary waivers have been consistent elements of Caribbean tax structures. All these factors have contributed to low levels of tax revenue in Caribbean countries, with a complicated tax administration system and increased taxpayer compliance costs.

Although not many structural tax reforms have taken place in the region, one of the main tax reforms has been the introduction of the VAT, which has been a big step towards modernization of the tax system and simplification of the tax structure. The VAT has been introduced in Trinidad and Tobago (1990), Barbados (1997), Guyana (2007), and The Bahamas (2015). Since 1991, Jamaica has had a General Consumption Tax (GCT), which is basically a VAT. Suriname is the only Caribbean country analyzed here that has not introduced the VAT.

Schlotterbeck (2017) analyzes VAT performance in the region and concludes that while it has been relatively effective in boosting revenues, the VAT has not reached its potential. The main reason is because while the VAT was intended as a broad-based tax with limited exemptions, a single rate, and a zero-rating confined to exports, the scopes of these schedules were expanded over time and several exemptions and tax breaks introduced. For Peters and Bristol (2006), one of the major issues in the Caribbean has been the administrative costs associated with the VAT, and so they suggest improving the technical capacity of tax administration. While the VAT has been a relatively successful initiative, it has not catalyzed broader tax administration reforms. In fact, in Caribbean countries urgent long-term comprehensive tax reforms are still pending and have been hampered by short-term needs to mobilize revenues.

⁴⁶ The IMF has been conducting tax administration assessments in four Caribbean countries using the TADAT. The assessment highlighted many strengths, as well as numerous weaknesses that have negatively impacted tax administration performance. In the last three years, more improvements have been made to address these findings and recommendations, but more needs to be done.

2.5.2. *Governance Models: The Semi-Autonomous Revenue Agency Experience in Caribbean Countries*

Trinidad and Tobago, Suriname, and The Bahamas have regular tax departments within their ministries of finance, while Guyana, Jamaica, and Barbados have established semi-autonomous revenue agencies, with the Guyana Revenue Authority (GRA) the oldest. Table 2.3 displays a summary of the governance models for the Caribbean countries. In general, all departments and revenue authorities have the mission to promote and enforce compliance with tax laws, and assess, charge, levy, and collect all revenues due to the government under such laws, among other core functions.⁴⁷ In addition, the GRA, Tax Administration Jamaica (TAJ), and the Barbados Revenue Authority (BRA) process driver's licenses, issue motor vehicle registration certificates and titles, and collect revenues on behalf of other ministries.⁴⁸ Only Guyana and to some degree Barbados have integrated tax and customs administration.⁴⁹

The conversion of the TAJ into a semi-autonomous revenue agency resulted in a more flexible organization better staffed by more qualified employees and able to rapidly react to the operational needs. The revenue administration was able to acquire systems and equipment to support its work, reducing noncompliance and increasing tax revenue.

Simultaneously, the existing LTO was strengthened and the professional staff increased. Different initiatives were implemented to closely monitor large taxpayers who do not file on time (stop-filers) and enforce payment of tax arrears. In Jamaica, as in most countries, a small proportion of taxpayers accounts for a high proportion of tax revenue, so enhancing the LTO's effectiveness secured a high amount of revenue.

The three semi-autonomous revenue agencies in the Caribbean were established by merging two or more different departments or divisions within the ministries of finance through a legal instrument (act or decree) so that they have a separate legal status and boards, personnel systems outside of the civil service purview, and self-financing mechanisms. As shown previously, in line with trends in developing countries,

⁴⁷ Other typical core functions include advising the minister on all matters relating to revenue. Support functions include developing and maintaining information systems, maintaining and establishing legal systems, employing lawyers, training employees and establishing codes of conduct for them, and other functions.

⁴⁸ The BRA is in charge of collecting highway revenue on behalf of the Ministry of Transport and Works.

⁴⁹ The BRA is responsible for cashiering functions of the Customs Department and providing information technology support to Customs.

Table 2.3. Main Governance Models of the Revenue Bodies in Caribbean Countries

Country	Type	Name	Year Established	Integration Tax and Customs Administration	Customs Administration	Act
The Bahamas	Revenue Department (Central Revenue Authority – CRA)	Department of Inland Revenue (DIR) – Central Revenue Administration		No	Customs Department – Ministry of Finance	n.a.
Barbados	Semi-autonomous revenue agency	Barbados Revenue Authority (BRA)	2014	No	The Barbados Customs and Excise Department (BCED)	Barbados Revenue Authority Act, 2014-1
Guyana	Semi-autonomous revenue agency	Guyana Revenue Authority (GRA)	2000	Yes	n.a.	Revenue Authority Act No. 13 of 1996
Jamaica	Semi-autonomous revenue agency	Tax Administration Jamaica (TAJ)	2011	No	Jamaica Customs Department (JCA) – Executive Agency	Revenue Administration (Amendment) Act 2011
Suriname	Other	Directorate of Direct Taxes and Inspectorate of Turnover-Sales (i.e., Indirect) Taxes		No	Inspectorate of Customs (IoC)	n.a.
Trinidad and Tobago	Revenue Department	Inland Revenue Division (IRD) – Ministry of Finance		No	Customs and Excise Division – Ministry of Finance	n.a.

Source: Prepared by the authors.

Caribbean countries have established semi-autonomous revenue agencies in response to challenges such as shortages of resources, equipment, and other elements necessary for operations, and constraints in civil service regulations. However, such agencies have not been a silver bullet in the Caribbean. Efforts have focused heavily on the establishment and functioning of the agencies rather than on carrying out the necessary reforms

for the strengthening, capacity-building, and proper functioning of the tax systems. In Guyana and Barbados, the establishment of more autonomous bodies has distracted the authorities from urgent reforms. Even though semi-autonomous revenue agencies tend to increase public confidence in the tax administration and may contribute to better pay of tax administration staff, there has not been conclusive evidence of other improvements in the Caribbean, and these agencies have not proven to be “quick-fix-panaceas” (Mann 2004). As seen in other developing countries, adopting a semi-autonomous revenue agency model will not have the desired results on revenue without strengthening support functions, changing governance models, improving management, and moving towards modernization of IT systems (Von Haldenwang, von Schiller, and Garcia 2014).

Organizational Reforms and Adoption of a Strategic Management Approach

In recent years, Caribbean tax administrations have made significant progress towards strengthening headquarters functions. In addition to establishing semi-autonomous revenue agencies, Guyana, Jamaica, and Barbados have reassessed their organizational structure and introduced administration reforms to adopt a more strategic management approach. Likewise, despite being within the ministries of finance, the revenue departments of Trinidad and Tobago and The Bahamas, and more recently Suriname, have carried out important transformations in their organizations and operations to enhance performance. However, they do not have the same level of flexibility as a semi-autonomous revenue agency, which has limited the scope of such reforms. Despite these recent improvements, without a proper set of organizational and individual performance indicators to measure progress and achievements, it is difficult to establish pathways for further structural reforms and comprehensive improvement programs. Today, while the three semi-autonomous revenue agencies have made significant progress, only Jamaica and Barbados have established multi-year strategic plans in a structured manner that provide targets and indicators.⁵⁰

Human Resources

Taking advantage of more flexible human resource management brought about by semi-autonomous revenue agencies and recent reforms within

⁵⁰ For more on the Barbados 2016-2020 Strategic Plan, see <https://bra.gov.bb/About/Strategic-Plan.aspx>.

ministries of finance, some attention has been paid to staffing and training.⁵¹ However, staff shortages and lack of skills are still two related major weaknesses for Caribbean tax administrations. In Suriname, the paucity of university-level professional staff is notable: 90 percent of the auditors and appraisers have only a secondary school or equivalent-level degree, and a significant proportion (36 percent) of key supervisory positions are either vacant or filled with acting personnel. The Inspectorate of Sales (Indirect) Taxes has a higher proportion of staff at the university level. However, several positions are vacant or filled on an ad hoc basis (Howell and Reyes-Tagle 2018).

Regarding remuneration, in Caribbean countries the size of the salary gap between revenue administration staff and private sector employees performing comparable jobs has been estimated in the range of 20 to 50 percent.⁵² However, it is difficult to make a fair comparison because employees in the public sector enjoy significantly more stability and receive more benefits than those in the private sector. Moreover, in the absence of indicators and means to measure individual performance, it is difficult to establish a well-defined merit-based system to select and promote personnel that is coupled with a salary scale that establishes equitable differences in pay based on different levels of job complexity. Staffing issues have posed challenges for Guyana. After isolated efforts to improve staff training, the GRA now urgently needs to increase its training programs and hire qualified staff for its new oil and gas unit, particularly in the areas of petroleum auditing and accounting. The new conditions in Guyana posed by the discovery of oil deposits have exposed the importance of comprehensive policy reforms needed to attract and retain qualified human resources.

With regard to training programs in the Caribbean, these have mainly been limited to a few audit staff. More extensive training programs are needed not only in audit units—especially in the face of the challenges and opportunities posed by the digital transformation—but also in areas such as tax assessment, legal processes, IT systems, customer service, and management. Recent efforts in the region include the establishment of training centers in Jamaica in 2016, with funding and assistance from the IDB, to provide TAJ employees with core knowledge in areas such as

⁵¹ In Jamaica, the TAJ has made changes in staff remuneration and benefits schemes, and has reviewed technical qualifications and standards for all job positions (Schlotterbeck 2017).

⁵² This estimate is based on circumstantial evidence collected by IDB technical assistance missions to the Caribbean.

customer service, offer taxpayer education, and carry out an audit training program. In Barbados, there are some initiatives to strengthen training and capacity-building for certain staff members, while in Suriname training programs are being sponsored by the Fiscal Strengthening to Support Economic Growth (FISEG) Program.⁵³

Finally, codes of conduct exist within Caribbean administrations, but not enough emphasis is given to their enforcement. Records of which staff members were investigated for misconduct—let alone actually sanctioned—are not available. Neither is information on penalties applied to sanctioned officials. The current best-case scenario is Guyana, where some information on sanctioned staff is occasionally reported by newspapers. What Guyana is doing is a desirable start in conveying the message that corruption, like many other problems, can be defeated with the necessary political will and a well-designed strategy.

2.5.3. Thriving in a Complex Organization

Tax administrations in Caribbean countries are a combination of the function and taxpayer types of organization. With the exception of Suriname and The Bahamas, which have a tax-type-based structure, all other tax administrations have integrated direct and indirect tax operations and moved towards a functional organizational structure (Table 2.4).

Additionally, most Caribbean countries have adopted a taxpayer segmentation approach by establishing a Large Taxpayer Office. The TAJ's LTO was established to interface with large taxpayers who pay yearly taxes within the range of 500 million to 1 billion Jamaican dollars. Since 2019, the GRA in Guyana has been working on the creation of an LTO that would include a specialized oil and gas unit (the Petroleum Industry Taxpayer Unit). In 2003, Trinidad and Tobago established a Petroleum Large Taxpayers Business Unit as part of the audit section, with its main focus being the audit of approximately 300 large companies—including all petroleum-producing companies, commercial banks, and insurance companies—in order to verify the taxable income declared. In contrast, Suriname and

⁵³ The FISEG Program, which is supported by the IDB, is designed to support Suriname's efforts to return to a sustainable fiscal path in the medium term through an ongoing reduction of its fiscal deficit. The specific objectives of the program are to (1) increase tax revenue, (2) improve public expenditure planning and execution, and (3) improve the quality of public investment while increasing alternative sources of funding for investment projects.

Table 2.4. Organizational Structure and Taxpayer Segmentation

Country	Integrated Direct and Indirect Taxes	Function-Based Organization	Segmentation by Taxpayer Type
The Bahamas	Yes	n.a.	n.a.
Barbados	Yes	In progress	Large Taxpayer Office
Guyana	Yes	Yes	Large Taxpayer Office – in progress
Jamaica	Yes	Yes	Large Taxpayer Office
Suriname	No	No. Tax-type-based	No
Trinidad and Tobago	Yes	Yes	Petroleum Large Taxpayers Business Unit

Source: Prepared by the authors.

Barbados have no LTOs in their organizational structure. It should be noted that a properly functioning and effective LTO requires certain arrangements that Caribbean tax administrations have found difficult to address (e.g., a sound legal framework, effective LTO staffing, training, appropriate job grading and remuneration, and identification and monitoring of performance indicators) (Jacobs et al. 2013).

The adoption of a functional organizational structure and taxpayer segmentation approach have been a breakthrough in Caribbean countries, but again, improving revenue administration effectiveness requires a comprehensive strategy to improve large, medium, and small taxpayer compliance. Defining specific priorities for enforcement programs for medium and small taxpayers is key, given the size of the underground economy and labor informality. However, the fragmentation of functional units demands more institutional capacity and improving core functions—both of which have been major weaknesses of most revenue bodies in the Caribbean. The following sections develop these issues in more detail.

2.6. Effectiveness of Tax Administration in Caribbean Countries

2.6.1. Registry and Maintenance of a Tax Database

The critical issues for tax administrations in Caribbean countries start with poor data integrity and limited accuracy of the taxpayer database. These problems are associated with a poor initial process of identification and registration of taxpayers, constraints in the handling and storage of information pertaining to individuals, limitations in IT systems, and deficiencies in processes to maintain databases. As a result, the accuracy of information held in the systems is not reliable.

Although Caribbean countries provide taxpayers with a tax identification number (TIN) issued through e-systems, not all of them allow taxpayers to get a TIN online, since there are still some paper-based processes in place (e.g., Guyana requires taxpayers to visit one of its tax offices to apply for a TIN). The taxpayer registration process in The Bahamas is available online, but it can take up to 21 days for officials to review all the information. In the tax administration in Trinidad and Tobago, the TIN does not have a check digit,⁵⁴ while in Suriname until recently there was no single TIN number.⁵⁵ Additionally, only in a few tax administrations do the IT systems provide single and national views of taxpayers.

The absence of systematic and documented procedures to maintain the taxpayer database has been a major issue that has led to large percentages of inactive/dormant accounts as well as duplicated or undetected irregular registrations in databases in Caribbean countries, hindering effective enforcement and compliance. Only Jamaica has systematic and documented procedures to maintain the taxpayer database, including using large-scale automated processes to cross-check information against third-party databases (i.e., the medical insurance sector to identify medical professionals not registered as taxpayers, financial institutions, and others). However, this process is done only periodically and, as in the other countries, there is no crossing and matching process with other government agencies such as those for land titling, social security agencies, or even customs.

For the rest of the Caribbean countries, maintaining a solid tax database is a big challenge. For example, in Trinidad and Tobago, around 56 percent of corporate income tax taxpayers were inactive but not deregistered during 2014–2016. The high percentage indicates that few taxpayers are deregistered every year. In Barbados, the BRA is working on getting the information from third parties, asking them to submit their statements on a monthly basis to facilitate up-to-date reconciliations (Barbados Revenue Authority 2017). However, compliance with this initiative is voluntary and needs to be encouraged. Guyana and Suriname do not take advantage

⁵⁴ A good practice in the issuance of TINs includes the use of a check digit computed from the remaining digits of the TIN every time the TIN is entered into the system. If the system computation results in a check digit that is different than the one included in the TIN, then there is an error in the TIN entry. The inclusion of the check digit minimizes data entry errors (Jacobs et al. 2013).

⁵⁵ In August 2019, after approval from the Parliament, the government introduced a unique and personal 8 digits tax identification number against expiration/conversion of all numbers previously issued to the taxpayer (e.g., sales tax, master numbers and import / export numbers).

of third parties' information; both tax administrations face big challenges regarding the completeness and accuracy of their databases.

Most Caribbean countries have established tax invoice systems in their tax legislation, but this process is paper-based and requires taxpayers to follow guidelines. For example, according to TAJ, a registered taxpayer in Jamaica must issue a tax invoice for every taxable supply (this includes goods or services taxed at 16 or 0 percent) made to another person (whether the recipient is registered or not).

2.6.2. Effective Risk Identification, Assessment, and Management

Previous sections emphasized the importance of effective risk identification and its positive effects on reducing the tax burden and informality in the economy through the adoption of a risk-based tax audit system. The Compliance Risk Management Framework was also discussed as a means of managing tax compliance based on potential risk. Acknowledging these critical issues, most international financial institutions that have assisted Caribbean countries have endorsed the adoption of risk-based management principles as an integral part of strategic planning for tax administration. However, only three countries in the region (Jamaica, Barbados, and, more recently, Guyana) have taken a proactive approach by establishing a risk management division.⁵⁶

Guyana's GRA and Suriname's DoTC do not apply a risk-based approach to manage compliance and do not have a comprehensive compliance improvement plan. In Trinidad and Tobago, the Inland Revenue Division (IRD) is the agency that manages institutional risks, but the system there is under development (there is only a disaster recovery plan for the IT system). In these tax administrations, risk management has focused only on audit cases, and those cases are poorly targeted and selected. The low level of data integrity and the failure to use third-party information and systems to support information cross-checking are critical issues that need to be addressed. Attention also needs to be paid to the adoption of a risk-based management approach by the governance board and directors. Further, one of the major and recurrent weaknesses found in Caribbean tax administrations is the lack of documented processes. Except for Jamaica's

⁵⁶ According to CARTAC, the Programmes Unit in Jamaica, which falls under the Strategic Services Division, was established in 2011 and charged with the following responsibilities: identifying compliance risk, developing programs to combat these risks, monitoring the execution of programs developed, and evaluating the success of these programs. According to the Barbados Revenue Authority (2017), that agency began implementation of a risk-based approach to tax administration in 2015-2016.

TAJ, most of the core processes are not documented or standardized, posing a significant risk for business continuity.

2.6.3. Taxpayer Services to Support Voluntary Compliance

In the absence of reforms to simplify the tax structures and strengthen the capacity for appropriate enforcement, the provision of effective taxpayer services to support voluntary compliance is crucial. On this front, Caribbean countries have made significant progress, mostly due to improvements in their IT systems. Except for Suriname,⁵⁷ all countries have developed e-tax services to allow taxpayer access to a range of services via web portals. All of them allow taxpayers, to a greater or lesser extent, to create an online user ID and manage their tax accounts—that is, submit or amend tax returns, make payments, apply for refunds, request changes to taxpayer information, file objections and appeals, submit queries, etc. The IRD in Trinidad and Tobago offers “non-logged-in service” available to VAT and pay-as-you-earn taxpayers that allows those who have not registered to access the IRD’s e-tax platform.

In addition to e-services, most Caribbean countries provide tax education and outreach programs as well as explanatory brochures on general processes and main taxes that are available throughout digital channels. For example, the GRA’s website includes tax education and filing tools available to Guyanese taxpayers to encourage voluntary filing. In Jamaica, the TAJ Taxpayers Service and Education (Programs) Unit is responsible for the development and delivery of education programs, which assist taxpayers in the preparation and submission of tax documents. This unit also has a Schools Tax Education Program (STEP) that involves visits to schools in Jamaica to teach students about the various tax types and the importance of paying taxes. However, in some cases, such as Barbados, scant information and tools are readily available to taxpayers on their web portal.

Most tax administrations in the Caribbean have adopted an organizational culture with vision, mission, and core corporate values that are mainly related to delivering a customer-oriented approach. The establishment of Customer Care Centers (CCC) in the region has been another crucial step in this direction. In Barbados, there is a customer service unit and an electronic customer service helpdesk system. In Jamaica, the CCC

⁵⁷ The legal framework was recently amended to include provisions to allow for e-filing, electronic signature, or validity of e-documents to enforce taxes. The current system is in development.

supports telephone and email queries. In contrast, in Suriname there are no units dedicated solely to taxpayer service and enquiries, nor has staff received training or guidelines to handle questions from taxpayers.

However, even though all these channels are available in most Caribbean countries, customer service performance is weak and not all tax administrations actively solicit feedback from taxpayers. In addition, such feedback is not systematically considered in the design of taxpayer service programs and products or improvement programs. In general, there is inadequate support for promoting voluntary compliance in the Caribbean.

2.6.4. Tax Returns

Despite the availability of taxpayer services in most Caribbean countries, e-filing and on-time filing rates are very low (except among large taxpayers).⁵⁸ Even for the TAJ, which has aggressively rolled out a mandatory e-filing program to improve filing compliance, penetration is still low, especially among the small taxpayer segment. For FY2018/2019, the average on-time filing rate for large taxpayers was 86.3 percent, while for the small and micro taxpayer segments the rates were only 66 percent and 43 percent, respectively (Tax Administration Jamaica 2019).

On-time filing rates vary across Caribbean countries and among tax types (Table 2.5). The Bahamas has the highest on-time filing rates for the VAT in the region (75 percent), while Guyana has the lowest (43 percent). Jamaica has a relatively steady percentage of on-time filing across tax types of between 65 and 67 percent; in contrast, Trinidad and Tobago has a high percentage of on-time filing rates for the VAT (73 percent), but

Table 2.5. On-Time Filing Rates (average, in percent)

Country	Value-Added Tax/Goods and Services Tax	Corporate Income Tax	Pay-As-You-Earn	Personal Income Tax
The Bahamas	75	—	—	—
Barbados	45	55	n.a.	90
Guyana	43	n.a.	n.a.	n.a.
Jamaica	65	69	60	67
Trinidad and Tobago	73	n.a.	n.a.	35
Caribbean average	60	44	49	49

Source: Prepared by the authors based on data from Schlotterbeck (2017).

⁵⁸ In Jamaica, for example, according to the FY2018/2019 TAJ Annual Report, 77 percent of the value of all payments received by the TAJ were done electronically.

ranks poorly in terms of the personal income tax (35 percent of on-time filers). The country that faces the most challenges in terms of non-filers is Suriname. Over 2013–2016, the average non-filing rate in Suriname for the sales tax was 62 percent, while the non-filing rate for the income tax was 25 percent in the large taxpayer segment and 54 percent for medium and small taxpayers.

2.6.5. Tax Payment Processing

As one would expect if there are low on-time filing rates, the on-time payment rate in the region is also low, especially in the medium and small taxpayer segments.⁵⁹ Jamaica even has low average on-time payment rates in the large taxpayer segment (64.2 percent) and a much lower average rate in the micro segment (11.5 percent) (Tax Administration Jamaica 2019). Despite improvements in taxpayer services (all Caribbean countries except Suriname have e-payment services), education programs, and the increasing availability of e-payment systems, more efforts are needed to improve compliance.

The situation of arrears in the Caribbean also reflects low payment and collection enforcement capacity.⁶⁰ Schlotterbeck (2017) finds that in the region, the value of accumulated tax arrears compared to the total tax collected is generally high by international standards.⁶¹ In Jamaica, for example, the value of accumulated tax arrears compared to the total tax collected is 131 percent, and 96.5 percent of the value of arrears is older than 12 months (Table 2.6). In Suriname, tax arrears averaged 73 percent

Table 2.6. Total Arrears in Three Caribbean Countries, 2017

Countries	Value of Arrears as a Percent of Total Collection	Value Collectible as a Percent of Total Tax Collection	Value of Arrears Older than 12 Months as a Percent of Total Arrears
Barbados	36.0		86.0
Jamaica	131.0	6.0	96.5
Trinidad and Tobago	10.9	2.0	
Regional average	68.0	15.4	78.0

Source: Prepared by the authors based on data from Schlotterbeck (2017).

⁵⁹ A clear exception is Trinidad and Tobago, which in 2016 reported an on-time payment rate for the VAT of 96 percent (IMF 2017a).

⁶⁰ This is also the case in some Latin American countries. See Arias (2016) for the cases of Brazil and Peru.

⁶¹ The author states that the ratio should not exceed 10 percent on a three-year average.

of the domestic revenue collection in the 2014–2016 period (Howell and Reyes-Tagle 2018). A low level of collection of tax arrears has terrible knock-on effects: inefficient collection of arrears creates an incentive to postpone payment of taxes, particularly when sanctions are not significantly higher than inflation and interest rates on loans combined. Thus, a tax administration’s powers to enforce collection of arrears need to be enhanced.

2.6.6. Reporting and Verification Programs

As mentioned earlier in this chapter, the importance of complete and accurate reporting of tax information and declarations is crucial. Given the context in which revenue bodies in Caribbean countries work—poor data integrity, IT system shortcomings, low staff capacity, low compliance levels, and so on—these issues can turn into a pervasive day-to-day reality. More importantly, a country where taxpayers know that the tax administration does not have the capacity to monitor and audit their returns will have a hard time encouraging compliance.

Barbados and Jamaica have audit units and even audit selection committees. However, as in other countries in the region, the annual audit programs often set audit targets based on available audit resources, and they are expected to be completed based on available auditor time and capacity. As a result, audit plan targets are not very ambitious. In Trinidad and Tobago, the selection of audit cases for large taxpayers is done manually by sector experts within the unit, with some large taxpayers placed under permanent audit control. In general, tax administrations in the region lean heavily towards auditing the large taxpayer segment rather than issue-oriented audits. In contrast, in Suriname, the DoTC conducts no comprehensive audits, and reporting on single-tax-type audits is incomplete.

In Caribbean countries, most audits are conducted following the traditional method of visiting and auditing taxpayers on their premises and developing “comprehensive” audits covering several periods and taxes. As mentioned above, the scope of the audit process is usually constrained by staff capacity either in terms of the number of staff available to undertake audits or a lack of expertise and training for auditing all taxpayers’ obligations across taxes (at least the VAT, corporate income tax, and pay-as-you-earn taxpayers). This includes addressing complex corporate income tax issues, particularly in the presence of highly specialized sectors such as extractive industries. Detailed information on this subject is not available for most of the Caribbean, but based on

information from Barbados and Jamaica, the total number of tax administration employees in relation to the countries' population does not seem to be low: Barbados has about 1.2 employees per 1,000 population and Jamaica, 0.8. The unweighted average for Latin American countries is 0.2 employees per 1,000 population (Arias 2016). According to the TADAT 2017 assessment, in Trinidad and Tobago there is a total of seven staff who receive training each year, but none have professional audit qualifications (IMF 2017a).

However, in the Caribbean the percentage of employees assigned to auditing, investigation, and other verification work is low in relation to the total number of employees. In Barbados, this percentage is 27.2, while in Jamaica it is only 21.7 percent. In Latin American countries, an unweighted average of 41.2 percent of employees is devoted to auditing work.

Furthermore, poor data integrity compromises the accuracy of information held in the systems and hinders procedures for regular cross-checking with third-party data. This also contributes to the low capacity of the audit process in Caribbean countries. Consequently, audit quality may be compromised. According to Schlotterbeck (2017), a significant proportion of audit assessments are disputed and discharged (in Jamaica and Trinidad and Tobago, for example, audit assessment objection rates range from 70 to 90 percent).⁶² Likewise, the collection rate of additional assessments resulting from audits is also very low.

In Jamaica and Barbados, the tax administrations have recently carried out reforms to increase the capacity of the audit process and the number of staff involved in it. However, in Jamaica only 0.26 percent of the total audits completed were comprehensive audits, and the total amount assessed was less than 1.6 percent of the total amount collected during FY2018/2019 (Tax Administration Jamaica 2019). Given the lack of a strategic management approach, most tax administrations do not monitor or evaluate the impact of their audit programs or set indicators to contrast the results. In Trinidad and Tobago, the IRD does not monitor or evaluate the impact of the audit programmer on levels of taxpayer compliance. Further, most tax administrations have not established analytical models or methodologies to estimate the size and composition of the tax gap, so these data are not usually available for Caribbean countries.

⁶² The author emphasizes that this is due to the fact that in disputes that legally defer the collection process, taxpayers often use objections as a delaying tactic.

2.6.7. Tax Disputes and Settlements

All three semi-autonomous revenue agencies in the region, as well as tax administrations in The Bahamas and Trinidad and Tobago, have established an appropriately graduated tax dispute and settlement mechanism that provides appeal means for when taxpayers disagree with an assessment. Taxpayers dissatisfied with an assessment may appeal by applying a notice of objection to the revenue body within a specific time frame (usually 30 days). A leveled tier process then takes place that includes: (1) an internal administrative objection procedure within the tax administration, (2) a stage review process by an independent special tribunal, and (3) an appeal to the appellant court to resolve remaining disputes concerning legal interpretation and facts. These mechanisms are usually clearly established in the tax legislation or in the tax administration act.

In Guyana and Trinidad and Tobago, the first stage of internal administrative objection is independent from the audit unit, so the objection review process is independent of the auditor who raised the assessment. This is not the case in Jamaica and Barbados, so the whole process may be compromised in those countries. Moreover, in any country very few tax disputes are resolved on time. For example, in Trinidad and Tobago only 10 percent of the disputes are finalized and paid in less than 30 days. Additionally, the timeline and causes of the disputes are poorly or even not monitored.

2.6.8. Revenue Management

As explained earlier in this chapter, once the filing of tax declarations and reporting takes place, their proper revenue management is crucial. As part of their responsibilities for advising government, Caribbean tax administrations must provide input (data) to the government to allow tax revenue forecasting and tax and revenue estimates, which are important for budgeting. In some cases, these estimates are also used to set operational revenue collection targets for the tax administration. Jamaica, Guyana, and Barbados regularly provide input into government tax revenue forecasting and estimates. In Trinidad and Tobago, the IRD provides regular input to the government budgeting process. In Barbados and Suriname, there is no dedicated expert staff who routinely gather data on tax revenue collection and economic conditions. In contrast, Guyana and Jamaica have dedicated expert staff who provide revenue projections and estimates to the MoF.

In Caribbean tax administrations, the limited budget provisions, lack of auditing processes, and a risk-based management approach hinder the tax refund process and create bottlenecks. For example, Trinidad and Tobago, Guyana, and Barbados do not provide forecasts of refund levels, so the budget appropriations process does not ensure sufficient funding to meet approved claims. Moreover, the proliferation of exemptions, incentives, deductions, allowances, and discretionary waivers makes it harder to monitor and evaluate the refund requests, especially for the VAT (extensive zero-rating of both inputs and final goods). According to the BRA, in 2017, the amount payable to taxpayers in Barbados at the end of the year was greater than the opening balance because the amount of refunds paid during the year was less than the new amounts assessed, resulting in a higher balance at the end of the year (Table 2.7).

Another major issue is that in some tax administrations, the tax refund system is not risk-based. For example, in Guyana and Trinidad and Tobago it does not provide a preferential system for low-risk taxpayers to allow for fast payments after approval while the audit process takes place. Moreover, even when taxpayers can easily apply for tax refunds online, in most Caribbean tax administrations, VAT refunds are generally not paid within 30 days. In Trinidad and Tobago, 70 percent of VAT refund claims are not paid, offset, or declined within 30 calendar days.

Additionally, for most tax administrations in Caribbean countries, maintaining a system of revenue accounts has been complicated due to deficiencies in their IT systems. In Trinidad and Tobago, the revenue system is not updated in real time with primary taxpayer transactions, such as returns and payments. As such, taxpayers' account balances are unreliable. Further, the system is not aligned with tax laws. Although the VAT Act provides for payment of interest on delayed refunds, the system does not calculate and post interest credits to taxpayer ledgers when refund payments are delayed.

Table 2.7. Tax Refunds Payable, Barbados Revenue Authority (thousands of Barbadian dollars, including interest)

	2017	2016
Opening balance	222,381	191,261
Assessments	74,661	201,539
Refunds paid	-56,876	-172,316
Amount payable	240,266	222,481

Source: Barbados Revenue Authority (2017).

Note: The fiscal year in Barbados runs from April 1 to March 31 the following year.

2.6.9. *Accountability and Transparency*

Most Caribbean countries, particularly the three that have established semi-autonomous revenue agencies, have undertaken reforms to increase transparency and accountability as part of their efforts to improve governance. Jamaica, Trinidad and Tobago, Barbados, The Bahamas, and Guyana actively participate in international information exchange and transparency initiatives, and as members of the Caribbean Community (CARICOM) they have Double Taxation Agreements with other member countries and international partners. Additionally, they are part of the Global Forum on Transparency and Exchange of Information for Tax Purposes. However, Trinidad and Tobago still has a limited number of tax information exchange agreements. Except for Suriname, all Caribbean countries have in force intergovernmental agreements with the United States to implement the Foreign Account Tax Compliance Act (FATCA).⁶³

Regarding international taxation and cooperation, only Jamaica has transfer pricing legislation in place. In 2015, transfer pricing rules were introduced through anti-avoidance provisions in Jamaica's Income Tax Act. These rules are consistent with OECD practices, as discussed earlier. Barbados ensures that the legal framework includes transfer pricing legislation and base erosion and profit shifting regulations as part of its strategic objectives for 2016-2020 under the BRA 2016 Corporate Strategic Plan.

Despite efforts to improve strategic planning, tax administrations in the region have produced and published limited information on operational performance. None of the Caribbean countries publish timely annual reports that are widely disseminated. Recently, only Jamaica has made significant progress in producing and publishing information on operational performance.⁶⁴ Barbados had produced some reports in the past, but these have not been audited by the Auditor General.⁶⁵ This lack of reporting and transparency is in part due to poor data integrity that severely limits the availability of information, weakness in the performance management framework, a lack of performance indicators, and low

⁶³ The FATCA generally requires that foreign financial institutions and certain other nonfinancial foreign entities report on the foreign assets held by their U.S. account holders or be subject to withholding on applicable payments.

⁶⁴ In Jamaica, the Auditor General conducts an annual review of the TAJ. In addition, the TAJ produces an annual review of domestic tax performance that is sent to the MoF, but this report is not published.

⁶⁵ See <https://www.bra.gov.bb/About/Annual-Report.aspx>.

engagement of the board of directors of the Barbados Revenue Authority in governance reforms.

Finally, regarding external and internal oversight mechanisms, all three semi-autonomous revenue agencies are audited by an Auditor General responsible for auditing the accounts and the core activities of all public bodies. Similar mechanisms are in place for the divisions and departments within the ministries of finance. As for the internal audit process, all three semi-autonomous revenue agencies have an Internal Audit Department or unit with internal control mechanisms that provide staff integrity assurance. However, Trinidad and Tobago has no internal affairs unit and the audit function is not independently organized. The country relies instead on the Public Service Commission for assurance of integrity.

2.7. The Journey Just Begun: IT Systems and Early Intelligence Activities in Caribbean Tax Administrations

This chapter talked earlier about the importance of embracing digitalization. However, most of the 23 Latin American countries are categorically at the elementary levels of digitization, namely the e-file and e-accounting levels (Ernst & Young 2017). This is even more the case for Caribbean countries, which have only recently taken their first steps on their digital journey by updating their IT systems and adopting e-filing. This section explains how tax administrations in the Caribbean have begun to strengthen their IT systems, which are the backbone of digitalization. Clearly, these countries have a long way to go in the digital era, which is constantly evolving and poses challenges and benefits regarding which the countries will have to find a middle ground.

2.7.1. Updating IT Systems

In most tax administrations in the Caribbean, IT systems have been very weak, and their functional limitations hinder crucial processes. While features and deficiencies vary between countries, the most common issues are (1) lack of a comprehensive view of taxpayers at a national level; (2) outdated platforms with no upgrade options; (3) lack of key modules, especially related to risk management and auditing; (4) not having a sound revenue accounting environment; (5) providing limited or no management information reports; (6) design weaknesses that affect the ability to determine historical debt levels as well as the age of the debt, which makes it difficult to assess the effectiveness of debt management

practices; (7) systems that do not interface with other government systems or the tax system; (8) frequent system failures that put them offline; and (9) a lack of basic taxpayer services such as e-filing or e-payment systems.

Acknowledging the urgency for upgrading IT systems to support key operations and improve service delivery, Caribbean tax administrations have undertaken several actions in recent years (Table 2.8, Box 2.9), including adapting existing systems or migrating to modern ones. Most of the legal and technical issues associated with e-filing and e-payment have been addressed, and electronic filing and payment facilities are now available for most core taxes (except for Suriname).

Some of the systems are commercial off-the-shelf and others are in-house. Their prevalent use has been to underpin the core tax administration tasks of processing returns and payments and collecting relevant information (e-tax system), and some include a management information system that facilitates decision-making by getting the right information to managers and staff. These systems have been implemented in stages that in some Caribbean countries are still under development.

2.7.2. The Digital Journey of Caribbean Tax Administrations: A Bumpy Beginning

As mentioned at the beginning of this section, updating IT systems and establishing e-services, especially e-filing, have been crucial steps towards automation for Caribbean tax administrations. Moreover, it can be considered the beginning of real digitalization efforts. Nonetheless, some institutional arrangements still need to be in place for digitalization efforts to thrive. For instance, to pursue the goal of paperless operation, tax administrations should be able to regulate and require electronic filing of tax forms and customs documents, as well as e-payments of taxes and customs duties. Currently, tax administrations in Guyana, Suriname, and Trinidad and Tobago do not have the legal power to enact such requirements; consequently, taxpayers in these nations can opt at their convenience to use—or, more to the point, not use—electronic filing and payment of taxes.

Digital enforcement practices are having a hard time punching their way through to being used in practice. Some Caribbean countries are facing difficulties due to legal constraints on using the available technology to increase their revenue administration's effectiveness. For example, in some cases e-notices, e-notifications, and e-mails are not considered legal for tax enforcement purposes. In other words, these e-communications

Table 2.8. Main Features of IT Systems in Caribbean Tax Administrations

Country	Name of Core IT Tax System	Customs Administration	Taxpayer Services				Management Information System	
			Taxpayer Registration	E-Filing	E-Payments	Taxpayer Certificates	Staff	Management Reports
The Bahamas	DataTorque		✓	✓	✓			
Barbados	Tax Administration Management Information System (TAMIS)	Automated System for Customs Data (ASYCUDA)	✓	✓	✓			✓
Guyana	Total Revenue Integrated Processing System (TRIPS) DataTorque (pending)	Automated System for Customs Data (ASYCUDA)		✓	✓			
Jamaica	Revenue Administration information System (RAIS)	Automated System for Customs Data (ASYCUDA)	✓	✓	✓	✓		✓
Suriname	Standard Integrated Government Tax Administration System (SIGTAS) (pending)	Automated System for Customs Data (ASYCUDA)						
Trinidad and Tobago	GenTax		✓	✓	✓			✓

Source: Prepared by the authors using tax administrations' reports.

BOX 2.9. CHARACTERISTICS OF IT SYSTEMS IN CARIBBEAN COUNTRIES

The Bahamas. The IT system DataTorque has contributed to the successful implementation of the value-added tax.^a The system allows users to register for a free user account for various tax types, communicate with the tax office by sending and receiving messages, manage tax accounts, submit tax filings, make payments, amend filings, and request changes to taxpayer information.

Barbados. The Barbados Revenue Authority (BRA) implemented the Tax Administration Management Information System (TAMIS) in 2018, replacing the E-Tax and Excise Tax Administration System (VETAS). TAMIS is an Oracle web-based inventory control and report system used by the U.S. Internal Revenue Service to control and track Taxpayer Advocate Service cases and provide management information.^b With this system, taxpayers can view their account information, file returns, view statements, view overdue and upcoming returns and payments, make online payments, and submit inquiries.

Guyana. Since 2019, the Guyana Revenue Authority has been implementing DataTorque^c which is intended to replace the former IT system, the Total Revenue Integrated Processing System, which has been failing.

Jamaica. Coupled with the implementation of tax policy reforms, Jamaica introduced tax administration reforms. Effectiveness increased with the support of the Revenue Administration information System (RAiS) that was gradually implemented.^d In addition to providing operational tools to the tax administration, this system also made available a good range of services for taxpayers. Indeed, a key success factor to improving enforcement was the expansion of e-filing. In 2013, fewer than 4 percent of tax returns were e-filed. In 2018, approximately 70 percent of tax returns were e-filed and 100 percent of pay-as-you-earn (PAYE) returns were e-filed. The online services allow access to improved web services related to many taxes. The improvements via RAiS also accommodate online applications for taxpayer registration numbers and tax compliance certificates. The range of online services enable taxpayers to (1) view their filing and payment history, (2) generate statements of accounts, (3) request a refund and track its status, (4) create a payment plan, (5) apply for income tax exemptions, (6) object to an assessment, and (7) make ACH direct bank payments.

Suriname. The modernization of the IT infrastructure has been hampered by the lack of a business owner for an IT solution. In mid-2017, the government gave a clear mandate to implement a new integrated data management system known as SIGTAS, which was scheduled to be fully operational and go live in early February 2018. SIGTAS is a software package supplied by an established vendor (SOGEMA) (Howell and Reyes-Tagle 2018). In December 2019, amendments approved by the National Assembly enabled the introduction of SIGTAS, the implementation of which is currently 65 percent advanced.

(continued on next page)

BOX 2.9. CHARACTERISTICS OF IT SYSTEMS IN CARIBBEAN COUNTRIES *(cont.)*

Trinidad and Tobago. The Inland Revenue Division uses GenTax as an integrated tax processing software package, which is designed to support an agency implementing multiple taxes. It adapts to diverse revenue agency requirements through configuration, not customization. It was developed specifically to support the business of revenue agencies, processing multiple taxes at multiple agencies run on industry-standard server platforms and with modern web browser clients, supporting multiple database management systems consistently implemented on time and within budget, and handling filing and payment (e.g., it can provide management reports and has the functionality to generate enforcement lists and an audit trail system).^e

Finally, the customs administrations of Guyana (GRA), Jamaica (JCA), Barbados (BCDE), and more recently Suriname (IoC) use the Automated System for Customs Data (ASYCUDA) tool or the new version, ASYCUDA World, a computerized system designed by the United Nations Conference on Trade and Development in 1981 to manage countries' customs. The system handles customs manifests and declarations, accounting procedures, transit, and suspension procedures, and generates trade data that can be used for statistical economic analysis. ASYCUDA uses international codes and standards developed by the International Organization for Standardization, the World Customs Organization, and the United Nations.^f

Source: Prepared by the authors.

^a This is an adapted version of the commercial off-the-shelf solution software GenTax.

^b See https://www.irs.gov/irm/part13/irm_13-004-001.

^c This is an adapted version of the commercial off-the-shelf solution software GenTax.

^d Ibid.

^e Ibid.

^f See <https://asycuda.org/en/about/>.

can be used as “persuasive” communications but have no legal value—only paper communications are considered legally valid.

Also, a very effective method to reduce tax arrears is to freeze delinquent taxpayers' bank accounts over the Internet. This issue is particularly relevant in Caribbean countries, where tax arrears are equivalent to about 100 percent or more of tax revenue (Arias 2016). Within Caribbean countries, the intervention of the judiciary is required before the assets of delinquent taxpayers can be seized by the tax administration. This means that the administration cannot take action until a court authorizes it, even if all the steps established in the tax code to recover bad debts have been followed. Ideally, this would be legal, without prior judiciary intervention required so long as taxpayers' rights have been properly observed and the tax due is confirmed after completion of the appeal procedure (when applicable).

As described in previous sections, e-invoicing is an innovation that could greatly benefit tax administrations. Unfortunately, Barbados,

Guyana, and Trinidad and Tobago do not have the legal power to make e-invoicing mandatory for transactions or taxpayers.

2.7.3. Jamaica's Early Intelligence Activities

As mentioned earlier in this chapter, most Caribbean tax administrations do not use structured intelligence gathering and research initiatives to monitor compliance levels and assess risks except for limited analysis of internal data sources or limited third data party information. However, in Jamaica, the TAJ introduced the Forensic Data Mining Unit (FDMU) in 2009 to identify self-employed persons who were not paying their taxes. This unit undertakes analysis of third-party information to detect unregistered taxpayers. Currently, the TAJ is seeking to optimize cooperation with third parties such as financial institutions to retain monies due to tax debtors (Tax Administration Jamaica 2019). Monitoring of the impact of these actions is not done systematically. In 2011, the TAJ Director General reported that the FDMU had identified more than 11,000 persons who were underreported, not filing, or noncompliant in some way. The unit identified some JA\$7.72 billion in potential revenue in FY2009/2010, while by then 10,000 assessments had been conducted with a value of approximately JA\$5 billion.⁶⁶ Although in an early stage, the TAJ has made a significant step toward digitalization and has identified tax challenges in the Jamaican digital economy as one of its four broad research areas.

2.8. Summary of Recommendations for Caribbean Countries

This section summarizes the key recommendations drawn from this chapter, with a focus on relevance for Caribbean countries at the administrative and operational levels.

1. *Keep it sound and simple: Simplify the good connection between tax policy and tax administration, and curb exemptions*

Tax policy and revenue administration are intrinsically linked, and the cost of an effective revenue administration goes far beyond the revenue losses. Thus, simplicity is an important value when designing a tax system in order to promote voluntary compliance, reduce compliance costs, and facilitate enforcement—the key functions of the administration.

⁶⁶ See <https://jis.gov.jm/govt-making-progress-in-collecting-taxes-2/>.

2. Location, location, location: Institutional organization, reforms, and modernization processes

Regardless of the model adopted, modernization efforts need to be accompanied by a comprehensive strategy to increase the effectiveness and accountability of revenue administration. Furthermore, issues that are hindering administrative autonomy and diminishing the flexibility to implement new changes need to be addressed. Reforms efforts must focus on addressing the restrictions on staffing posed by civil service constraints. Hiring and promotions should be based on merit and enable employee movement within the organization. Then, as employees are hired or promoted, their performance should be evaluated against clearly defined responsibilities and objectives and in adherence to a strict code of conduct. Performance assessment must be part of the strategic management approach at the individual and organizational levels. Tax administrations in the Caribbean need to either design or improve their current set of organizational performance indicators and establish the means to measure and monitor them.

Continuous training and education programs for employees should be widely available on a regular basis and not restricted to a limited number of employees. This not only contributes to capacity-building but also generates incentives for employees to stay and grow within the organization. It is clear that tasks such as auditing are crucial for tax administrations and require highly qualified staff, so it makes sense to focus efforts and resources on auditor training that needs to be more extensive. However, there are other relevant areas in which employees need to be trained, such as tax assessment, legal processes, IT infrastructure, taxpayer service, management, and digitalization.

Some Caribbean countries integrate tax administration and customs in a single body. Barbados, Guyana, and Suriname follow this model, which potentially boosts efficiency.⁶⁷ The benefits of such integration—particularly in the areas of risk analysis and audit/inspection—should be considered in other tax administrations in the Caribbean.

3. Improve data integrity and expand access to data sources (registry and database)

As stated by Douglas Merrill, “Big data is not about bits; it is about talent.”⁶⁸ To overcome the low accuracy of tax registration and the poor integrity

⁶⁷ Currently, the integration of customs and domestic taxes is under review in Barbados.

⁶⁸ Former CIO/VP of Engineering at Google, in his May 1, 2012, blog at Forbes.com. See <https://www.forbes.com/sites/douglasmerrill/2012/05/01/r-is-not-enough-for-big-data/#1e8657f55924>.

of the databases, Caribbean tax administrations urgently need to address issues in the registration process that come from the generation of TINs. Likewise, they need to establish systematic, documented, and periodic procedures for removing inactive taxpayers and dormant accounts from the taxpayer database. Also, IT systems should allow for the generation of single and national views of taxpayers as well as the creation of reports. Finally, information exchange and systematic cross-checking with other government agencies (other revenue agencies, ministries) and the private sector (companies, banks) should be enhanced.

4. Better safe than sorry: Adopt a risk-based approach (risk identification, assessment, and management)

Caribbean tax administrations should consider advancing the adoption of a risk-based approach by establishing mechanisms to evaluate organizational and compliance risk. Those that have already started (Jamaica, Barbados, and Guyana) should move forward and strengthen their efforts, and those that have not started should consider doing so. First, regarding organizational risk, plans to evaluate and mitigate business continuity risk should be designed with a focus on two critical sources of institutional risk present in most Caribbean tax administrations: the lack of documented processes, and IT system shortfalls that affect the provision of services for staff and taxpayers. Second, related to compliance risk, Caribbean tax administrations should adopt a Compliance Risk Management Framework that allows for establishing a risk approach for the selection of audit cases and VAT refunds. There should be fast-track VAT refunds for low-risk cases, and priority should be given to audit cases that are potentially higher risk, such as those that account for the largest proportion of tax revenue.

5. Voluntary compliance

Efforts are needed to provide tax education, informative materials, and outreach programs. The content of these programs should be improved and updated on a regular basis. Furthermore, to enhance voluntary compliance, the establishment of taxpayer services units (like those in Jamaica and Barbados) should be extended to other tax administrations, with a special focus on the design of multi-channel strategies that meet taxpayers' expectations and take advantage of digital channels. Caribbean tax administrations also should consider taking a proactive approach to

understanding taxpayer behavior by offering more added-value taxpayer services that facilitate the promotion of voluntary compliance.

6. Tax returns and payments: e-filing, payment, and arrears

Caribbean countries have made or are making important efforts to move towards paperless administrations by establishing e-filing and e-payment facilities. Now the challenge will be keeping these services available for taxpayers while overcoming shortfalls in IT systems and avoiding bottlenecks. Moreover, legal powers should be granted to gradually implement the mandatory electronic filing of tax forms, customs documents, and e-invoicing (if technologically feasible). Meanwhile, it is necessary to encourage the use of these channels to promote voluntary compliance and strengthen enforcement to improve on-time filing and payment rates.

Additionally, tax administration powers for the collection of arrears need to be enhanced. Setting specific targets for the collection of tax arrears could help reduce the pervasive arrears problem across Caribbean countries. Priority should be given to the largest and newest debts. For small arrears, the option of outsourcing collection should be evaluated, as it may improve efficiency. In combination with strengthened enforcement powers, operational units should be assigned targets for the recovery of tax arrears, and their ability to meet these targets should be a key performance indicator.

7. Reporting: Tax audits and computing the tax gap

To address underreporting, systematic computing of the tax gap (starting with the VAT) should be a priority for Caribbean tax administrations, which need to start using underreporting as a proxy for their effectiveness. Furthermore, tax administrations need to strengthen audit and verification programs. To this end, they need to establish a strong team to perform audit work and acquire information systems (that allow for an emphasis on “single item audits”) to support the work. To the maximum extent possible, audit and verification work should be automated (auditors’ pre- and post-audit work should be computerized), including paperwork. More importantly, the cross-checking of information and/or the analysis of outlying ratios from risk analysis calculations should be done on a regular basis. Efficiency would be improved if the selection of taxpayers to audit were defined objectively through risk analysis.

To increase audit effectiveness, the scope of the audit work should be reduced with the support of information systems and data analytics. Much more emphasis should be put on “single item audits,” in which the auditor

focuses on an outstanding item detected through cross-checking or analyzing an outstanding ratio resulting from risk analysis. For instance, when the computer system or model detects an anomaly (e.g., underreported sales to government or an outstanding mark-up ratio), a note would be sent to the taxpayer to evaluate the anomaly during a “desk audit” at the revenue administration premises. The process would be concluded when either the taxpayer amends and pays the additional tax or proves that the administration is wrong. This change of audit method could bring a substantial improvement in audit effectiveness because it would vastly increase the number of non-compliant taxpayers who can be reached and even sanctioned.

8. Revenue management

Guyana, The Bahamas, and Suriname should consider establishing a special organizational unit devoted to preparing economic studies (like the ones in Barbados, Jamaica, and Trinidad and Tobago). In general, these units should include a specialized analytical team focused on tax collection trends, monitoring the hidden economy, revenue yields from audits, understanding taxpayer behavior, and providing input to government budgeting processes of tax revenue forecasting and estimation. For these matters, strong interinstitutional coordination is needed (i.e., other revenue agencies, ministries, the private sector, among others) along with the use of tools made available through digitalization.

9. Accountability and transparency: Boost efforts on international taxation

Caribbean tax administrations need to be more transparent by regularly producing and publishing information on operational performance. These reports need to be available to the public, updated, and audited by the Auditor General at the time they are released, if possible.

Tax administrations must advance in establishing provisions for the adoption of transfer pricing rules (currently only available in Jamaica) under the existing legal framework. Staff need to be trained on transfer pricing and specialists need to be hired. Also, consideration should be given to establishing and training a small group devoted to evaluating the problem of base erosion and profit shifting. The group should evaluate the legal loopholes that allow maneuvers to reduce the tax burden. Trinidad and Tobago and Suriname should increase their international cooperation in tax matters and sign a greater number of Tax Information Exchange Agreements.

10. *IT systems and digitalization*

Digitalization is a continuous process that evolves, and it is reshaping the way tax administrations operate. Some Caribbean tax administrations just started their digital journey by moving towards paperless processes, which require that they update their IT systems and procedures. It is the beginning of a long journey, so it is necessary to keep the momentum and keep moving forward. Caribbean tax administrations need a deep transformation to be in tune with the digital era. This will be a long and bumpy road, but one that is unavoidable if tax revenue is to be maintained and boosted.

It is extremely important for tax administrations to establish all of the necessary arrangements (i.e., legal and operational frameworks, IT infrastructure, management, and performance) and a strategy that sets the path for going digital in a successful manner. For example, the removal of a few common legal constraints could free up revenue administrations in Caribbean countries to operate more efficiently and speed up the process. First, the legal framework should facilitate the mandatory e-filing of tax forms and customs documents, as well as e-payments of taxes and customs duties. Second, electronic communication should be leveraged to a greater extent. Legal powers should be granted to gradually implement mandatory e-invoicing (subject to technological feasibility). Most importantly, any policy proposal should—as the suggestions presented here do—take into account the needs of both stakeholders and the tax administration.

In the digital era, tax administrations in the Caribbean must be prepared to put in place all the procedures and technological infrastructure necessary for cybersecurity and to safeguard personal information and the integrity of databases. Concomitant with the increase in digital administration, there should be implementation of strict security procedures covering data storage, communications between the tax administration and taxpayers, and governance regarding how taxpayers can access their own information.

Finally, there are some considerations that need to be kept in mind before designing procedures or acquiring IT systems. At a minimum, the following key revenue administration policies should be established: (1) the revenue administration should aggressively move towards a paperless administration; (2) procedures should minimize any direct contact between taxpayers and revenue administration staff; (3) strict security procedures should govern access to taxpayer information; (4) confidentiality should be zealously protected; (5) security procedures should also govern taxpayers' electronic access to their own information; (6) tax returns, payments, and

customs documents should all be submitted electronically; (7) no physical money or bank instruments should be received at the revenue administration; (8) IT systems should be within the government's IT master plan, if such a plan exists; (9) changes needed in laws and regulations should be identified and introduced; (10) changes required in revenue administration organization should be undertaken; and (11) an ample range of taxpayer services should be provided via the tax administration website.

2.9. Conclusions

The beginning of this chapter noted that Caribbean countries have ample room to improve the effectiveness of their tax administrations. For Caribbean countries with a generally low tax burden but high statutory tax rates and an array of exemptions, incentives, deductions, allowances, and discretionary waivers, the road to improvement is relatively clear: simplification and modernization. Hopefully, this chapter has shown that a few issues surface time and time again that, if addressed effectively, could lead to significant progress in the region. An effective tax administration depends heavily on information technology that offers opportunities for automation, which streamlines processes, increases productivity of employees, diminishes corruption, and eliminates human error. Information technology also delivers on a second theme of this chapter—the importance of swiftness in all aspects of tax administration. As economies grow more rapidly, tax policy and tax administrations also need to speed up. Speed has the knock-on effect of reducing noncompliance by minimizing the time available to hide transactions and otherwise cover the tracks of illicit practices.

Note, however, that information technology alone is not a silver bullet. A structural change requires updating and adjusting laws, regulations, and even institutions. In many cases, tax administrations are hobbled by a legal and judicial system that puts bureaucratic brakes on enforcement actions.

Legal remedies are again involved in a third major theme of the chapter, which is that there are ample opportunities for tax administrations to use third parties to conduct some activities in order to relieve the strain on administrations that are often underfunded and understaffed.

And indeed, staffing is the fourth major theme broached in this chapter: tax administration is complicated, nuanced work, and the public employees who perform it can often earn much more in the private sector. It is crucial to find ways to make roles in the tax administration fulfilling, challenging, and conducive to advancement.

The recommendations within this chapter that fall under the umbrella of each of these themes are not, in and of themselves, sufficient. A major

ingredient in a successful modernization program for a tax administration is public buy-in. Extensive public awareness campaigns can inform taxpayers about the reform programs as well as the consequences of noncompliance. Regardless of the tactics used by a given government, public opinion—upon which the sustainability of a modernization program depends—is shaped by three key ingredients: (1) the fairness of the tax system, (2) the effectiveness and impartiality with which the tax laws are applied, and (3) the productivity of public expenditure.

There is one final element that warrants mention with regard to the types of programs that will bring the tax administrations of Caribbean countries closer to optimal functionality. It is something intangible but indispensable: political will. No tax administration can advance without political support and the determination to change. Tanzi (1996) defined “political will” as “the awareness of the need for change and determination to bring it about.” True political will is iron-tough, and officials who possess it are often (correctly) obsessed with their goals and willing to take risks. A management team composed of such officials can achieve widespread modernization. With such a team in place, political commitment can deliver rapid approval of legislation and regulations, as well as the kind of long-term planning that is necessary for such a long-term and complicated task.

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How to Improve Public Financial Management in the Caribbean

Jose Fajgenbaum and Claudio Loser

In an earlier paper, we discussed the link between sound public financial management (PFM), growth, and macroeconomic stability in six Caribbean countries: The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago. We found that countries adopting high-quality policies and institutions lower the probability of debt distress and thus reap growth dividends (Loser and Fajgenbaum 2018). The Caribbean countries examined not only showed a declining growth trend, but also were well below that of other emerging markets and developing economies and Latin American countries. Perhaps the most salient statistic underscoring the Caribbean group's poor fiscal performance was the average level of public debt of the countries examined, which rose to the equivalent of 73 percent of GDP in 2016–2017 compared with 52 percent for the 164 emerging market and developing economies worldwide.¹

More generally, we argued that poor fiscal performance was attributable to weaknesses in the Caribbean countries' medium- and long-term national planning capacity, budgeting, program budgeting, and financial management instruments. These weaknesses resulted in a limited focus on strategic objectives and control over public spending, faulty or absent evaluation of spending effectiveness, lack of incentives to achieve institutional objectives, and limited evaluation systems. Moreover, these weaknesses were heightened by inadequate availability or use of information for sound policy decision-making and results-oriented management. In sum, weak PFM was a major cause of poor fiscal and therefore growth performance. As such, the main objective of this chapter is to identify key enhancements within the Caribbean countries' PFM processes that could be considered by policymakers to overcome

¹ See Chapter 4 in this volume for a detailed decomposition of public debt dynamics and its determinants across Caribbean countries.

the identified weaknesses. The policy options have been drawn from global best practices in PFM.

This chapter first reviews the concept of public financial management and its evolution in recent decades, then discusses the current PFM institutional framework and functions in the Caribbean. The final section highlights the individual country PFM weaknesses and proposes a sequenced plan of action to address them. Annex 3.1 presents a brief discussion of the issues relevant to sequencing of PFM reforms and the methodology on which the plans of action are based.

3.1. What Is Public Financial Management?²

Public financial management is a central component of effective management of public finances. In the traditional sense, PFM deals with how governments manage the budget in its different stages—design, approval, and execution—and, in this context, with the processes and procedures that cover all aspects of government revenue and expenditure management. Over time, the concept and scope of PFM evolved, and the name was broadened from the original “expenditure management” to “financial management” and then to all aspects of managing public resources, including resource mobilization and debt management, as well as a growing link to medium- and long-term implications and risks associated with the actions related to public finances.³ In this respect, PFM has evolved from focusing on financial compliance and control to becoming an institutional framework or instrument for macro fiscal analysis and policy. This has required that the analysis move from the central government to a broad concept of the public sector, covering the general government, state enterprises, and public-private partnerships.

Strong PFM practices regarding systems, processes, and rules can help counter the usual biases toward deficits inherent in the political process.⁴ It should be noted, however, that PFM is only an instrument and cannot by itself guarantee success in managing public finances, although it provides the necessary information to avoid unsustainable fiscal developments.

² This section is based on Cangiano, Currstine, and Lazare (2013) and Pimenta and Pessoa (2015).

³ See Chapter 4 in this volume for a detailed discussion on institutions related to public debt management.

⁴ The deficit (and debt) bias has been analyzed and explained by various authors as a common pool resource problem (Weingast, Shepsle, and Johnsen 1981), a prisoners’ dilemma (Hallerberg and von Hagen 1997), time inconsistency, and principal-agent relationships (Kydland and Prescott 1977).

3.1.1. *Public Financial Management Objectives*

The objectives of PFM as developed in practice are to (1) maintain a sustainable fiscal position, (2) effectively allocate resources, (3) efficiently deliver public goods and services,⁵ and (4) in support of the previous three objectives, carry them out with transparency (including quality, timeliness, availability, and public access to financial information). These objectives are closely interrelated.

Maintaining a Sustainable Fiscal Position

The first PFM objective is to seek sustainability of public finances. This involves the government's primary and overall deficits, namely the balance between expenditures and revenues (with and without interest payments, respectively), the debt level (including contingent obligations), and a multi-year perspective to help attain economic and financial sustainability in the medium term.

This objective indicates that the fiscal position goes beyond an enumeration of revenues and expenditures. They need to be formulated within a sustainable medium-term macroeconomic context rather than a one-year exercise in isolation that is formulated on cash basis accounting and that recognizes only liabilities in a strict calendar basis. For this purpose, tools that have been developed include medium-term expenditure frameworks,⁶ long-term sustainability projections, fiscal risk analysis, statements of contingent liabilities, independent fiscal projections and evaluations, fiscal rules, and an accrual accounting basis.⁷ Again, these are the tools that

⁵ These three objectives have been the standard PFM objectives used in academia and by the International Monetary Fund, the World Bank, and other international financial institutions since the early 1990s.

⁶ Medium-term fiscal frameworks have been increasingly adopted worldwide (Filc and Scartascini 2010; World Bank 2012; and Vlaicu et al. 2014). World Bank (2012) shows that the adoption of medium-term fiscal frameworks improves fiscal balances, reduces overall expenditure volatility, and increases the share of public expenditures in human capital enhancement areas like health. The study also shows that complementing multi-year budgeting with performance targets by sector (medium-term performance frameworks) improves the cost-effectiveness of public health expenditures. Vlaicu et al. (2014) illustrate that medium-term fiscal frameworks improve both total and primary budget balances. They also show that health expenditure volatility is reduced when fiscal frameworks establish both the aggregate resource envelope and the allocation of spending across sectors, programs, and agencies. Finally, they argue that health sector technical efficiency is positively affected when medium-term performance frameworks are in place.

⁷ See Chapter 5 in this volume for a detailed discussion of fiscal rules.

can only be effective to the extent that there is a political will to accept the constraints imposed by these principles.

Effective Allocation of Resources to Sectors and Programs

To attain this second objective, public resources must be allocated based on evidence of program effectiveness and in line with government priorities. This seeks to address one of the main problems arising from the typical allocation of resources based on historical patterns rather than on clear paths to accommodate changes in priorities. Stakeholders' interests or entitlements, some degree of inertia, and other impediments to correct unsustainable trends have made budgets more difficult to change in a fundamental sense.

To attain sustainability, in recent years countries have increasingly used medium-term budgets. These frameworks protect fiscal sustainability and help politicians and program managers reallocate resources within existing constraints over the medium term. Incremental allocation will continue to exist, but the medium-term frameworks allow the space for reallocation. Strategic planning, program budgeting, outcome indicators, bidding, planned cutbacks, and fundamental expenditure reviews are tools to that end.

Efficient Provision of Public Services

Once sustainability and adequate prioritization have been established, public resources need to be used in a cost-effective manner to attain the government's goals, including quality provision of services, the third objective of PFM. Services are a central issue in the evaluation of the quality of government and governance. A strong PFM framework will have a positive impact on improving public services if public servants are more motivated to improve the quality of service delivery and strong actions are taken to reduce corruption. One important element in support of effective PFM is to have effective public management, especially of staff, by moving away from politically motivated employment.

Transparency of Information

Fiscal transparency—defined as the clarity, reliability, frequency, timeliness, and relevance of public fiscal reporting and the openness of a government's fiscal policymaking process—is critical to supporting the objectives

of PFM and fiscal management. Fiscal transparency helps ensure that economic decisions of government are based on a shared assessment of the current fiscal position, costs and benefits of policy changes, and potential risks to the fiscal outlook. Fiscal transparency also provides the information needed for efficient financial decisions and accountability of the government for its fiscal performance and utilization of public resources. Finally, fiscal transparency facilitates external understanding and cooperation on fiscal developments.

Access to information ensures financial accountability, although the principles and standards of accounting and auditing are also important. International institutions have developed fiscal transparency standards, among which are the International Monetary Fund's (IMF) Code of Good Practices on Fiscal Transparency and its supporting guides and manuals; the IMF's Government Finance Statistics Manual; the Organisation for Economic Co-operation and Development's (OECD) specific standards for budget transparency; Eurostat's European System of Accounts statistical reporting standards; and the International Public Sector Accounting Standards Board accounting standards.

3.1.2. Public Financial Management Implementation Components

Three key components are needed for effective implementation of PFM objectives: information, processes and their time frame, and rules. The principles involved are straightforward, but their application is complex, which explains the slow and sometimes incomplete process of implementation. The size of the public sector, its scope, and the influence of interested parties are considerable obstacles, as there is no single path for design and implementation. Schick (2012) suggests that to change behavior and results for almost all PFM reforms, governments must change the information available to participants, the way the information is processed, and the constraints under which the participants act.

Information

Sound management of public finances depends on information. At every stage of the fiscal policy and management process, information is generated, classified, documented, and reflected in policy actions and eventually in financial results. Information provides the framework within which policies can be developed. The larger the role of government, the more extensive the information produced and required to attain the PFM

objectives. However, the information produced is not always relevant and there is a distinction between essential and useful information.

Processes

In the context of PFM, processes fulfill the key objective of converting information into actions and decisions. As information changes and the scope of public sector activity changes, so do these processes. New processes may appear as straightforward, but in practice they are complex, as they include elements such as routines, the structure of decisions, the roles and relationships of participants, the time frame for action or decision, the authority of participants' actions, and the scope of decisions. The processing of information involves its presentation in a form that will be useful for decisions or other actions.

Time Frame of Processes

The fiscal year is the standard time frame for managing public finances. Even if this is standard, one year is too short for informed longer-term decisions, and too long for flexibility in operations. Adjustments during the year are important when expenditure allocations are affected on a quarterly or other distribution basis within the year, as priorities and/or circumstances change. A lack of flexibility may result in a hoarding process, reclassification, or arrears to avoid hitting quarterly limits. A possible alternative is to create some reserve for contingencies, although it may not work for countries with volatile revenues.

These practices should be supplemented with the ability to make inter-annual transfers. In the end, adjustments or annual processes should be framed within a medium-term horizon, usually three to five years, and they should support the process of making decisions that take into account the longer-term implications of current programs or actions.

Rules

Information and processes are essential to PFM but require substantive support in the form of rules (Schick 1998). These rules should constrain political and managerial decision-makers and require substantive outcomes. Examples of rules include recognition of aggregate spending and revenue policies, contingent liabilities, and actions to be taken when financial results deviate from authorized levels. Multi-year and medium-term

fiscal constraints help shape current budget decisions. Rules need to be applied carefully. Premature establishment of rules may have unforeseen or unintended side effects and may fail because of weak implementation. Rules also need to account for possible risks to be effective. A salient example pertains to fiscal rules, which are discussed in detail in Chapter 5 of this volume.

Accounting for Fiscal Risks

A major element to consider is the existence of fiscal risks, mainly in the form of contingent liabilities and possible volatility in underlying conditions, either market-related or due to natural events that may generate additional expenditures or reduce revenue. Governments also accumulate contingent liabilities by guaranteeing loans, bank and other financial assets, and obligations related to pension systems, which, although they can be predicted, are frequently not adequately prepared for. Few governments sufficiently disclose these liabilities and similar risks in their budgets.

The costs of fiscal risks need to be taken into account in the process of approval and budgeting, and possible remedies, including adequate containments of risks, need to be developed. The procedures considered best practices are less standardized than in other areas. However, the inclusion of contingent liabilities in the budget, or the establishment of parallel budgets for contingent obligations, are effective tools.

3.1.3. *Public Financial Management Instruments and Infrastructure*

To achieve the PFM objectives, countries need to establish an adequate PFM infrastructure with satisfactory accounting and budgeting frameworks. This includes treasury tools, including cash management, beyond its traditional role as state paymaster or mere cash register.

Cash Management Functions

The overriding objective of cash management is to ensure that cash is available to execute the budget efficiently, and to meet government obligations when they fall due. Modern cash management, however, has other objectives:

- *Cost-effectiveness*: Borrowing only when needed and maximizing any returns on surplus idle cash.

- *Risk management*: Protecting government short-term assets and ensuring the availability of short-term financing when required.
- *Support policies* such as debt management and monetary operations, and financial market development.

Debt Management Functions

The main objective of public debt management is to ensure that the government's financing needs and payment obligations are met at the lowest possible cost over the medium to long run, consistent with a prudent degree of risk (IMF and IDA 2004).⁸ A secondary objective relates to the development of the domestic financial market. Debt managers can also manage other government assets and liabilities, including contingent liabilities.

Debt management functions, therefore, fall within three main categories: (1) financial market interaction, (2) debt management strategy design, and (3) processing and recording of transactions, such as debt servicing, maintenance, reconciliation of debt transactions, and government guarantees.

Treasury Single Account

In a broad sense, the objective of the Treasury Single Account (TSA) is to enable the national treasury to consolidate funds and their financial management. An efficient TSA has six main characteristics (Fainboim and Pattanayak 2011):

- *Location*: The TSA should be operated by the central bank because the resources held there are exposed to less risk compared to private or public commercial banks.
- *Coverage*: At a minimum, coverage should include all central government entities and resources and all budgetary and extra-budgetary resources to ensure that the maximum amount of cash resources is centrally managed.
- *Concentration*: Government agencies should not maintain resources in bank accounts that are beyond the oversight of the treasury, and the treasury should be given the power to authorize the opening or closing of bank accounts within the government treasury.
- *Fungibility*: Book-entry accounts are designed to guarantee the fungibility of TSA resources for treasury use, irrespective of their budget earmarking or appropriation.

⁸ See Chapter 4 in this volume for a detailed discussion on institutions related to public debt management.

- *Timely revenue and payment transactions that minimize the float.*
- *Timely information:* Daily information about the availability of cash.

Cash and Accrual Accounting Frameworks

Government accounts recognize two types of financial stocks and flows: the money received or disbursed during a fiscal period, and the money earned, or liabilities accrued, during the period. Both are needed, and one cannot substitute for the other. The cash basis reports the nominal surplus or deficit and borrowing requirements and the short-term impact of government finances on the economy. The accrual basis reports government's assets and liabilities and its fiscal position without regard to when the funds are received or paid. Box 3.1 illustrates the key differences between cash and accrual accounting.

BOX 3.1. CASH AND ACCRUAL ACCOUNTING IN THE PUBLIC SECTOR

Over the past two decades, a growing number of governments have started to move from cash toward accrual accounting. The main difference between accrual and cash basis accounting is the timing of when revenue and expenses are recognized. Up until recently, most governments prepared their budgets and accounts on a cash basis. The recent adoption of accrual accounting in the public sector reflects a growing recognition of (1) the limits of pure cash accounting, (2) the development of accrual-based international standards for fiscal and financial reporting, and (3) the sharp cost reduction resulting from computerized and integrated data gathering and accounting.

Under cash accounting, revenue is recorded when cash is received, and expenses are recorded when they are paid. Put differently, under cash accounting, economic events are not reported if there is no immediate exchange of cash. Governments have been tempted to exploit this weakness by deferring cash disbursements or bringing forward cash receipts as a means of artificially modifying their financial balance.

Under accrual accounting, however, revenue is recorded when it is earned, and not when payment is received, while expenses are recorded when they are committed. Under accrual accounting, governments recognize all assets and liabilities including financial assets, non-financial assets, and payment arrears and pension obligations. By capturing both cash transactions and non-cash flows, accrual-based fiscal reports provide a comprehensive view of the government's financial performance and the cost of government activities. Comprehensive and timely monitoring of cash reserves and flows is vital to evaluating a government's financing needs and payment capacity, and to ensuring that all cash receipts and payments are authorized by law.

The accrual basis is very useful for PFM objectives. It includes all liabilities that will be paid in future periods, and as a result programs or departments are charged with the total cost of resources they consume. This forces managers to operate efficiently and recognize the full economic impact of their decisions, thus increasing their accountability. Accrual increasingly represents the applied standard. However, accrual accounting may have problems with the valuation of assets and liabilities, including the yields of specific investments, including those related to the maintenance of the capital stock. Moreover, because of the complexities of accrual accounting, it is not generally used in emerging and developing countries, although it should be a longer-term objective in those countries.

There are at least six dimensions relating to accounting information that are essential to fiscal reporting:

- Fiscal reports should cover all public activity entities, according to international standards.
- Reports should include a balance sheet of public assets, liabilities, and net worth.
- Reports should cover all public revenues, expenditures, and financing.
- Financial statements should be timely.
- Reports should classify information in ways that make clear the use of public resources and that facilitate international comparisons.
- Annual financial statements should be subject to an audit by an independent supreme audit institution that validates their reliability.

Public Financial Management and Coordination among Agencies

For PFM to operate effectively, there needs to be coordination among agencies, with the central agency managing the budget and related fiscal processes and responsibilities. Although the various entities and the central agency may have different objectives, cooperation is needed because the central agency needs to have information for its actions while the entities need the resources and need to convince the central agency of their priorities. Only in exceptional circumstances should the central agency override the positions of the other entities, as in the case of a crisis or a fundamental change that requires major shifts.

Procurement and Public Financial Management

Public procurement typically accounts for a considerable share of public spending and has a critical role in infrastructure investment and therefore

a significant impact on GDP. It is embedded in PFM and, as such, influences a broader set of processes, systems, and institutions. Effective procurement systems provide efficient use of budgetary resources and timely and reliable information that relates to public spending, enabling government officials to assess whether spending is consistent with budget allocations, whether relevant laws and regulations are complied with, and whether there is value for money.

The concept of procurement has evolved during the last two decades. Traditional and legalistic procurement was mainly based on a set of procedures whose objective was to regulate the acquisition of goods and services, while minimizing abuse and favoritism. Currently, the integration of budget planning with procurement systems—fostered by innovations in information and communications technology (ICT)—ensure that public entities improve their resource management, share information, and reduce administrative transaction costs associated with updating, maintaining, and operating both budget planning and procurement. Through electronic catalogs, which are online repositories of approved suppliers and price comparisons, entities can purchase goods and services that meet their needs in terms of price and quality in a timely manner. With predictable provision of goods and services, the quality of service delivery is improved.

Sequencing of Public Financial Management Reforms

There is no right sequence for all times and places for introducing PFM reforms. Good practices may conflict with existing basic practices and be impractical if they stand between major revisions and the use of existing institutions. Also, reforms require an assessment of the capacity of the system to absorb changes in terms of workload, training, and the capacity to acquire new processes and more complex techniques. There is a trade-off between the speed of reform and the ability to absorb it that goes beyond the undoubted merits of the proposed reforms. Therefore, reforms need to be introduced in a multi-year time frame. Getting the sequence right will depend on a serious assessment of those trade-offs. A poor sequence/implementation strategy can doom well-intentioned innovations, even those with strong political and managerial support. However, priority needs to be given to what can be defined as the core objectives, as incorporated in the Public Expenditure and Financial Accountability analysis described in the next section of this chapter and then applied in the proposed PFM reforms for different countries in the chapter's final section.

There has been an extensive debate as to whether a strong (and enforced) PFM framework can be effective in improving fiscal discipline.⁹ The issue revolves around the extent to which the institutions themselves can alter the motivations of policymakers, given their typically short time horizon.

In sum, the institutional arrangements—ranging from formal commitments supported by strong accountability mechanisms and procedural arrangements to legally binding fiscal rules and fiscal councils—are designed to effectively discourage deviations from desirable policies. To a considerable extent, a key role these institutions play is reducing the consequences of asymmetric information between the public and policymakers, and thus increasing transparency and accountability. Complete budget transparency and strong accountability should establish credibility, as they raise the political cost of bypassing the associated rules. This of course assumes that society is committed to protect these institutions, and that the carrot of higher re-election chances reduces the political temptation for excessive deficits.

Thus, there is a causal relationship between institutions and fiscal outcomes, even if non-linear. Even in the case of reversed causality or endogeneity (from good outcomes to good institutions)—that is, when an intrinsically well-behaved government adopts strict institutions merely to signal competence—it is plausible to postulate that once these institutions are established and entrenched, the causal relationship will remain valid because of the potentially high costs of changing the institutions.

3.1.4. Public Expenditure and Financial Accountability and Its Principles¹⁰

A Public Expenditure and Financial Accountability (PEFA) assessment is a tool for evaluating public financial management. A PEFA assessment provides a thorough, consistent, and evidence-based analysis of PFM performance at a specific point in time and repeated over time. The assessment measures the extent to which PFM systems, processes, and institutions contribute to the achievement of desirable budget outcomes: aggregate fiscal discipline, strategic allocation of resources, and efficient service delivery.

⁹ See Debrun and Kumar (2007) for a summary of this debate.

¹⁰ As presented by the PEFA Secretariat (pefa.org). PEFA was developed by seven PEFA Partners: the European Commission, International Monetary Fund, World Bank, and the governments of France, Norway, Switzerland, and the United Kingdom, in collaboration with PEFA users and other international organizations.

It reports on the strengths and weaknesses of PFM using 31 performance indicators that are further disaggregated into 94 dimensions grouped in seven pillars as described below. PEFA has been applied repeatedly to the six Caribbean countries under review. The assessments remain largely confidential, although their results are reflected in other documentation.

Scoring Methodology

The performance of each indicator and dimension is measured against a four-point ordinal scale from A to D. The highest score, A, is warranted if evidence demonstrates that an internationally recognized level of good performance is achieved. The D score indicates that performance is below the basic level.

The Seven Public Expenditure and Financial Accountability Pillars and Their Objectives

1. *Budget reliability*

The government budget is realistic and implemented as intended. This is measured by comparing actual revenues and expenditures with the original budget.

2. *Transparency of public finances*

Information on PFM is comprehensive, consistent, and accessible to users. This is achieved through comprehensive budget classification, transparency of all government revenue and expenditure, public information on service delivery performance, and ready access to fiscal and budget documentation.

3. *Management of assets and liabilities*

Effective management of assets and liabilities ensures that public investments provide value for money, assets are recorded and managed, fiscal risks are identified, and debts and guarantees are prudently planned, approved, and monitored.

4. *Policy-based fiscal strategy and budgeting*

The fiscal strategy and the budget are prepared with due regard for government fiscal policies, strategic plans, and adequate macroeconomic and fiscal projections.

5. *Predictability and control in budget execution*

The budget is implemented within a system of effective standards, processes, and internal controls, ensuring that resources are obtained and used as intended.

6. *Accounting and reporting*

Accurate and reliable records are maintained, and information is produced and disseminated at appropriate times to meet decision-making, management, and reporting needs.

7. *External scrutiny and audit*

Public finances are independently reviewed and there is external follow-up on the implementation of recommendations for improvement by the executive branch.

3.2. Weak Fiscal Policies, Governance, Institutions, Rules and Processes, and Public Financial Management

Caribbean countries have high and generally growing levels of public debt, in large part due to fiscal overexpansion during periods of bonanza. In addition, fiscal performance has been seriously affected by poor PFM, especially budget transparency and credibility, and the absence of binding rules geared towards entrenching fiscal discipline. Weak parliamentary oversight and the absence of independent fiscal institutions are additional factors. Moreover, poor public-sector governance and weak institutions explain most of these vulnerabilities.

More generally, poor fiscal performance is attributable to weaknesses in these countries' medium- and long-term fiscal frameworks, program budgeting, and financial management. These weaknesses have resulted in a limited focus on strategic objectives and control over public spending, faulty evaluation of spending effectiveness, lack of incentives for achieving institutional objectives, and ineffectual or no evaluation systems. Moreover, these weaknesses are heightened by inadequate information upon which to base sound policy decision-making and results-oriented management.

Fiscal policy tends to be captured by interest groups lobbying for spending on their preferred public goods and entitlements without consideration of their budgetary costs. Concurrently, concern about the electoral cycle leads policymakers to accommodate such spending increases. These incentives reflect a weak political commitment to fiscal discipline and/or an insufficient understanding of the long-run constraints on fiscal policy. In this context, PFM systems that could make these constraints more explicit and binding have not been applied in the past, though considerable efforts are under way to address these deficiencies. Many studies show that countries with a strong commitment to fiscal discipline, supported by sound governance and good PFM, show strong fiscal performance. The rest of this section describes the overall weaknesses of Caribbean countries in governance, PFM, fiscal management, rules and fiscal institutions, and public debt management.

3.2.1. Governance

According to the multilateral development institutions, good governance implies organizational effectiveness in relation mainly to economic policy formulation and implementation. It also implies accountability, transparency, participation, openness, and application of the rule of law. Good governance is thus the framework under which sound PFM can perform effectively, leading to strong fiscal policies and economic growth.

The quality of governance in most Caribbean countries is weak, with no relative improvement in recent decades, except for Jamaica. There is a significant perception of corruption and favoritism in decision-making; lack of public trust in politicians and government; poor transparency and accountability in public finances and the operations of state-owned enterprises; and inadequate information, which affects informed evidence-based decision-making.¹¹ Further, institutional bureaucracy and/or outdated administrative systems hinder the private sector's ability to access public goods and thus create incentives for graft and corruption.

The region's scores on the World Bank's World Governance Indicators—political stability, government effectiveness, voice and accountability, rule of law, regulatory quality, and control of corruption—reflect these weaknesses in Caribbean countries. With 100 being the top rating, 50 being the median, and 0 the lowest relative rating, Caribbean countries scored at 60 on average over 2013–2017, generally above the Latin America and Caribbean region (55) (Table 3.1). Within the Caribbean group, The Bahamas (74) and Barbados (82) tend to have strong ratings, Guyana (41) and Suriname (48) are weak, and Jamaica and Trinidad and Tobago are close to the region's average. However, as shown in Figure 3.1, there has been no overall significant improvement in the Caribbean over the last 20 years, and in fact there has been some weakening of performance for The Bahamas and Barbados.

3.2.2. Public Financial Management

In general terms, the evidence shows that the PFM processes and systems of Caribbean countries are weak. The 2013 index for the PFM pillar of the Management for Development Results model ranked Caribbean countries

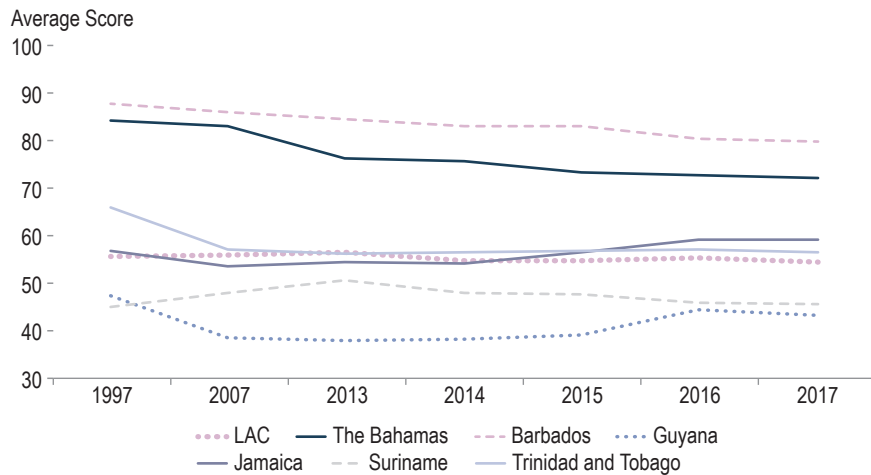
¹¹ This is confirmed by Transparency International's 2018 Corruption Perception Index. Out of 180 countries and territories, the index ranked Barbados 25th and The Bahamas 29th in the upper quartile; Jamaica 70th, Suriname 73rd, and Trinidad and Tobago 78th in the second quartile; and Guyana 93rd in the third quartile.

Table 3.1. Worldwide Governance Indicators Averages over 2013–2017

Country/ Region	Average	Voice and Accountability	Political Stability/ No Violence	Government Effectiveness	Regulatory Quality	Rule of Law	Control of Corruption
Caribbean	60	68	62	62	51	56	59
The Bahamas	74	76	82	74	59	68	85
Barbados	82	85	88	83	68	80	88
Guyana	41	53	41	44	34	38	34
Jamaica	57	68	53	64	58	47	50
Suriname	48	61	54	43	31	51	47
Trinidad and Tobago	57	64	56	63	58	51	47
Latin America and the Caribbean	55	60	57	54	55	50	54

Source: World Bank, Worldwide Governance Indicators, 2018 Update (www.govindicators.org).

Note: Best score = 100; Median = 50; Lowest score = 0.

Figure 3.1. World Governance Indicators Trends over 1997–2017

Source: World Bank, World Governance Indicators, 2018 Update (www.govindicators.org).

Note: Best score = 100; Median = 50; Lowest score = 0.

among the nine lowest countries in Latin America and the Caribbean, despite recent progress. The current PFM processes and systems have a limited impact on sound public resource management in the context of

budget formulation, execution, and oversight; budget credibility; budget transparency; and good financial governance. Some of the existing processes or systems overemphasize form over functionality. Moreover, systems in Caribbean countries help allocate resources in accordance with priorities, but important weaknesses still undermine the effectiveness and integrity of spending quality and reporting.

While in most Caribbean countries PFM processes and systems have been weak, more recently Barbados, Jamaica, and Trinidad and Tobago, with the support of the IDB, CARTAC, and the IMF, have introduced important improvements to their PFM systems and processes. Others, such as The Bahamas, Guyana, and Suriname, have advanced in specific areas.

The following sections highlights key aspects of PFM in Caribbean countries in terms of several Public Expenditure and Financial Accountability pillars outlined above. Subsequently, selected PFM functions are discussed in more detail. The names of the countries where problems are more pronounced, or where solutions have been developed, are shown in parentheses.

Budget Reliability

After the global financial crisis of 2008–2009, there was a significant deterioration in the predictability of budgets regarding actual revenue and expenditure (Barbados, Suriname) or of deviations in the mix of expenditure relative to the budget (The Bahamas), but reforms helped reduce the gap between budgeted and actual spending (Guyana) and revenue and expenditure gaps (Jamaica). Credibility has been undermined, however, by poor information on arrears (Barbados, Suriname, Trinidad and Tobago), extra-budgetary operations (Barbados, Suriname, Trinidad and Tobago), and spending through informal procedures, leading to unreported arrears (Trinidad and Tobago).

Transparency of Public Finances

Most of the required information based on best practices is presented in the Caribbean countries' budget documentation, and access to fiscal information is reasonable. However, problems persist. Information is lacking on extra-budgetary expenditure or funds (The Bahamas); however (in Suriname) main autonomous agencies and state-owned enterprises report their budget execution, liquidity position, and financial

statements. Capital expenditure is reported in totals only or is classified as transfers to public institutions (Barbados), hampering comparisons over time. By contrast, budget formulation and implementation, including the timeliness of budget preparation, its comprehensiveness, and reporting (including on extra-budgetary funds) have improved, and budget classification is compatible with international standards (Jamaica, Suriname).

Budget documentation is extensive, with complete economic and financial information (Guyana, Trinidad and Tobago). Budget allocations and transfers from central to subnational governments follow set criteria and rules, but there is no consolidation of fiscal accounts by productive sector (Guyana). Statutory bodies do not meet the obligation to present budget estimates and audited accounts (Barbados).

While procurement information is provided to the public (Suriname), procurement remains opaque in most Caribbean countries, largely because of non-competitive tendering, lack of qualified procurement staff, insufficient information on procurement processes, and no information on awarded contracts, all of which have raised corruption concerns (The Bahamas, Guyana, Jamaica, Trinidad and Tobago).

Policy-Based Fiscal Strategy and Budgeting

The fiscal deterioration over the past decade reflects weaknesses in the processes of policy, planning, and budget execution. While countries have shown improvements, a detailed operational medium-term framework is still lacking, which has hampered planning decisions. Guyana, and more recently Jamaica and Suriname, introduced five-year rolling frameworks, including frameworks for debt sustainability analysis. For its part, Barbados includes projections for a second year that serve as the basis for that year's budget. Trinidad and Tobago is working on a medium-term fiscal framework, but it has not yet become operational. In some countries, recurrent and investment expenditure are still two separate decision processes (Trinidad and Tobago).

Predictability and Control in Budget Execution

Tax legislation and procedures are comprehensive and clear (Trinidad and Tobago), but tax liability assessments and exemptions are still subject to discretionary powers of different government entities (Suriname) or lack enforcement (The Bahamas). Tax incentives and discretionary waivers

were reduced and replaced with a rules-based, transparent framework (Jamaica). Lack of effective tax revenue forecasting tools, enforcement capacity to apply penalties, and follow-up of delinquencies render the system voluntary (Guyana). Jamaica is affected by inaccurate taxpayer data, low on-time filing and payment rates, delays in the payment of refunds, and low-quality audits.

Internal audit remains relatively underdeveloped, but it follows professional standards. Expenditure commitment control procedures exist and are partially effective, but there is usually no follow-up by ministries on internal audit recommendations (Suriname). Effective internal controls are limited (The Bahamas, Barbados, Guyana), possibly because internal auditors do not have the resources needed to carry out their job.

Accounting and Reporting

Generally, annual financial statements do not meet international standards in terms of presentation or disclosure (The Bahamas). There have been problems with reconciliations, and although auditor generals highlight weaknesses and breaches of the rules, response efforts have been limited, reflecting lack of accountability and low regard for the auditor's opinion (The Bahamas). While key budget reports are prepared, public access and financial information are rather limited. By contrast, monthly and quarterly budget execution reports under the current IMF program and quarterly reviews are prepared by the Central Bank although they are not matched with the budget classification (Barbados).

Guyana improved accounting, recording, and reporting with the adoption of the Integrated Financial Management and Accounting System (IFMAS), and further efforts are expected to attain real-time connectivity among all government agencies. Government financial statements are generally not consolidated.

External Scrutiny and Audit

The Office of the Auditor General meets most of the independence standards set by the International Organization of Supreme Audit Institutions (INTOSAI) for such offices (Trinidad and Tobago). Annual audits cover the whole central government (Barbados), 75 percent of total expenditures (Trinidad and Tobago), and 60 percent of expenditures (Suriname). Audit reports and audited financial statements are submitted to Parliament according to the law (The Bahamas, Suriname, Trinidad and Tobago), but

with long delays in some countries (Barbados, Guyana). However, most countries do not show systematic and timely follow-up on auditor general findings (The Bahamas, Guyana, Jamaica, Suriname, Trinidad and Tobago). The effectiveness of parliamentary budget oversight is typically constrained by the limited time allocated to this function (Barbados, Guyana, Jamaica, Suriname, Trinidad and Tobago),¹² and these reviews are based on estimates that are not finalized and are undertaken when changes are no longer possible.

More generally, given the insufficient time available for legislatures to scrutinize budget proposals, the Caribbean countries may want to consider the establishment of parliamentary advisory budget offices staffed with professionals who are independent from government, akin to the Congressional Budget Office in the United States and the Parliamentary Budget Office in Canada. Alternatively, the Caribbean countries could establish a regional unit that would provide such professional services to the individual countries' Parliaments.

3.2.3. Specific Aspects of Fiscal Management

Fiscal responsibility legislation with medium-term fiscal performance targets is absent in the Caribbean, except for Jamaica since 2014. No Caribbean country follows performance- or results-based budgeting, thus denying policymakers the tools to match inputs and outputs and provide the incentive structure. This results in defective departmental ownership of sectoral plans and budgets that would allow for budget implementation consistent with strategic development objectives.

Some countries have not yet adopted a TSA. Its absence results in less efficient use of government cash and may lead to unnecessary temporary borrowing and make it difficult for the auditor general and Parliament to carry out their oversight functions effectively.

Public ownership of corporations has often had significant negative consequences for fiscal performance due to mismanagement, overstaffing, mispricing, etc. Public sector employment and salaries have often been politicized and entail unsustainable commitments. Similarly, cost overruns and serious delays on infrastructure projects and procurement irregularities have undermined budget performance, while information has been opaque at best.

¹² In some cases, parliamentary committees may not be able to contribute to the content and quality of the budget.

Fiscal management in the three commodity exporters among the Caribbean countries has been procyclical and inconsistent with economic stability and sustained growth. As explored in Chapter 6 of this volume, Trinidad and Tobago created its Heritage and Stabilization Fund in the late 2000s, accumulated considerable assets in it, and reduced its outstanding debt, thus limiting the impact of increased government revenue associated with the oil and gas boom. At the same time, however, it engaged in major increases in current spending that have proved difficult to reduce during the downturn of the commodity price cycle and that led to an increase of public debt. Suriname has just created a Savings and Stabilization Fund. Guyana has recently adopted a Natural Resource Fund to save some of its prospective oil export earnings (earnings from other commodity exports may also be included).¹³

3.2.4. Procurement

As discussed above, the core PFM functions should ensure financial compliance. Financial compliance means probity and regularity in budget management, especially in high-risk areas of management such as public procurement, which could be subject to waste and embezzlement. Public procurement refers to the purchase by governments and state-owned enterprises of goods, services, and works. Because of the sheer volume of spending it represents, well-governed public procurement can and must play a major role in fostering public sector efficiency, ensuring high-quality service delivery, and establishing the trust of the citizenry. Indeed, by addressing the entire procurement cycle, well-governed procurement systems are key to enhancing the predictability and control in the budget execution function of a PFM system.

The OECD Recommendations on Public Procurement promote the strategic and holistic use of public procurement and can be applied across all levels of government and state-owned enterprises. Thus, transforming public procurement into a strategic tool for good governance (1) supports the proper allocation of public resources, (2) yields returns through greater efficiency in public spending (a 10 percent saving represents an average of 0.33 percent of GDP in the Caribbean countries),¹⁴ and (3) mitigates such risks as inefficiency and corruption that are often prevalent in major infrastructure and other complex procurement projects.

¹³ See Chapter 6 of this volume for a detailed discussion on sovereign wealth funds.

¹⁴ Most likely, actual savings would be much larger if state-owned enterprises and other agencies were included.

3.2.5. Public Debt Management¹⁵

Experience with Debt Management in the Caribbean

As will be analyzed in detail in Chapter 4 of this volume, debt management in Caribbean economies is currently weak, and most countries do not have an explicit debt management strategy. Formal procedures regarding debt have been in place for many years, but they are not adequate for current circumstances. Most of the Caribbean countries have their public debt borrowing management functions dispersed across many institutions, and without adequate coordination. There is limited practice of comprehensive debt recording and reporting to Parliament.

With no legal requirement to account for any discrepancy between outturn and stated objectives and without provisions for transparency and accountability, performance cannot be evaluated against quantifiable benchmarks. This increases the risks of excessive borrowing.

Contingent liabilities and arrears are not adequately integrated into debt management, with limited control of government guarantees and lending arrangements. Total contingent liabilities in the Caribbean are conservatively estimated to average 19 percent of GDP, based on published data. No monitoring exists of conditions that could trigger additional contingent liabilities, such as those related to financial sector or public enterprise difficulties.

Debt Management Practices

Apart from Jamaica and Suriname, which each has a single debt management law, the legal framework for issuing and managing debt is fragmented, and there are no specific borrowing limits. Furthermore, a fragmented organizational framework and low staff capacity hinder the outcome. In most Caribbean countries, the coordination mechanism between debt management and fiscal and monetary policies is weak. Some countries have recently created debt management committees, but implementation has been slow and only Barbados and Jamaica have explicit debt management strategies, with successful results in Jamaica in 2013 and Barbados completed its debt restructuring by the end of 2019.¹⁶ Guyana is the only country in the group that has access to concessionary

¹⁵ This section is based on Nicholls (2014).

¹⁶ See Anthony, Impavido, and van Selm (2020).

lending, although that access is expected to end once Guyana becomes an active oil producer in 2020/2021. In Suriname, only the back office of the Debt Management Office (SDMO) is fully operational. It does not participate in the issuance of short-term debt and its systems are not connected to the Integrated Financial Management System.¹⁷

Operational risk management procedures are generally not well developed, and if these procedures exist, they are often not followed. Government debt markets remain underdeveloped, particularly secondary markets, which are limited and inefficient. Concerning debt recording and reporting, except for Jamaica, countries do not regularly disseminate comprehensive debt statistics, due in part to staffing constraints.

Considering these shortcomings, deliberate efforts are being made to improve the debt management frameworks in Barbados, Jamaica, Suriname, and Trinidad and Tobago, with support from the IMF, IDB, World Bank, and other institutions.

3.2.6. Rules and Institutions

Fiscal performance of the Caribbean countries could generally be characterized by weak fiscal discipline that has led to growing public debt, poor budget credibility, and procyclical fiscal policy. In part this suggests the absence of fiscal rules.¹⁸ As will be analyzed in detail within Chapter 5 of this volume, fiscal rules are medium- to long-term constraints on fiscal policy through numerical targets/limits/floors that are set on one or more government budgetary aggregates and bound in legislation and fiscal arrangements.

The Caribbean commodity exporters could benefit significantly by anchoring fiscal policy to a transparent rules-based framework, such as setting long-term ceilings on government expenditure based on a level of revenue based on an expected long-term price of their commodity exports. This would de-link the budget and the economy from the volatility of commodity revenue, stabilizing the overall fiscal balance throughout the commodity price cycle (see Chapter 5).

¹⁷ Under the loan SU-L1050, the IDB has been helping enhance Suriname's PFM system, including by strengthening debt management operations and system.

¹⁸ Indeed, several econometric studies, mainly for European countries in the 2000s (Debrun et al. 2008; Deroose, Moulin, and Wierts 2006; Debrun and Kumar 2007) and some for emerging economies (Kopits 2004; Corbacho and Schwartz 2007), suggest that fiscal rules are associated with stronger fiscal performance. This global evidence as well as its applicability to Caribbean countries is discussed in detail in Chapter 5 of this volume.

Fiscal rules need to be supported by independent fiscal institutions (or councils), suggesting that fiscal rules alone do not ensure fiscal discipline. Caribbean countries do not have independent fiscal institutions, the principal function of which is to analyze and assess the budget bill or any other legislative proposal in the fiscal area, including its consistency with fiscal rules (if any), prior to enactment (Kopits 2011).¹⁹ Similarly, the Caribbean commodity exporters could benefit considerably by setting up independent advisory councils that would professionally estimate the above-mentioned long-term commodity export prices, thereby enhancing the credibility of budgetary revenue estimates.²⁰

3.3. Action Plans to Strengthen the Public Financial Management Systems of Caribbean Countries

This section provides a broad country-by-country overview of common core PFM functions that need to be strengthened and subsequent reforms that need to be undertaken.

3.3.1. *The Bahamas*

The fiscal deterioration that followed the global crisis of 2008–2009 suggests the need for improving the processes of policy, planning, and budget execution, supported by fiscal discipline. The authorities have acknowledged this need and are working with the IMF's Caribbean Technical Assistance Center (CARTAC) on a Public Financial Management Bill, and with the IDB under a loan program that supports the government's Public Financial Management and Performance Reform (PFM/PMR) Project to be implemented over five years. The latter aims to strengthen the capacity of The Bahamas to allocate, manage, and monitor public resources. The project is comprised of four components: (1) performance monitoring, (2) national statistics, (3) public financial management, and (4) public procurement system. The government is drafting a Public Debt Management Bill as well as a Public Procurement Bill. Moreover, the government has submitted a sound Fiscal Responsibility Bill to provide a good balance between credibility and flexibility (including built-in escape clauses and counter-cyclical). This bill also establishes an

¹⁹ More specifically, an independent fiscal institution performs real-time costing and forecasting to ascertain the macro-fiscal consequences of the budget bill over a short-, medium-, and long-term horizon.

²⁰ These institutional arrangements are also discussed in Chapter 5 of this volume.

independent oversight fiscal council that would promote fiscal transparency and accountability.

This is an impressive and comprehensive legal framework. However, for its effective implementation, major efforts are needed to strengthen the country's core PFM functions, as they ensure financial compliance and help achieve a credible budget (i.e., a budget that is implemented as planned).²¹ For example, observance of the fiscal rules stated in the Fiscal Responsibility Bill may be hampered in the absence of adequate accounting and reporting systems. This suggests that developing an operational core PFM system acquires the highest priority, including efforts to strengthen revenue collection and increase discipline in expenditure management.

Strengthening the PFM requires strengthening the system's core functions, and as such the government needs to:

- Improve budget classification with a clear picture of sectoral spending.
- Intensify taxpayer registration and strengthen tax assessment, including tax audits and fraud investigation; reinforce the reconciliation between tax assessments and collection; and strengthen tax administration and enforcement to increase compliance and thus tax collection.
- Take steps to ensure that the outturn on expenditure composition does not deviate significantly from the original budget and that service provision is adequate. In this context, all extra-budgetary spending needs reporting, payment arrears need to be monitored, and the stock of such arrears, if they emerge, needs to be closely monitored.
- Integrate payroll and personnel systems to help the Public Service Department control pay and grading of staff. This would strengthen payroll controls and keep personnel data updated in a timely manner.
- Improve existing internal rules and controls for non-salary expenditure. Audits have identified widespread failure to comply with the rules that ensure probity and value for money. Closely related is the need to strengthen regulations governing procurement (supported by a strong commitment) to enforce open tendering

²¹ Financial compliance means probity and regularity in PFM, notably in budget management, in areas such as the management of payroll, procurement, and physical assets.

contracts, minimizing the use of uncompetitive procurement methods.

- Require that reporting by state-owned enterprises and subnational governments be consistent and subject to strong government monitoring. Steps to improve the transparency and objectivity of subnational governments are also needed.
- Strengthen the capacity to produce multi-year fiscal planning and related forecasting, with an emphasis on functional allocations beyond the current two-yearly horizon. The implications of investment on operational and maintenance spending need to be made explicit. Multi-year planning will help move from incremental budgeting to policy-based budgeting, matching resources with sectoral strategies.
- Adopt rules that require management response to internal audit findings, follow-up controls on recommendations, and timely submission of audit reports to the legislature. These steps help audit reports increase accountability, but they require additional resources.
- Clarify the role and strategy of the audits conducted. Generally, errors and breaches of the rules identified by the auditor general are not corrected. As mentioned above, ministries do not respond to the auditor general reports, nor are these reports considered by the legislature. The use of auditor general reports for scrutiny of government will increase accountability.
- Improve legislative scrutiny with the help of the previous, although such an improvement will also require providing the legislature with enough time to review budget proposals and reviews. Moreover, steps need to be taken to require the executive to implement the legislature's recommendations.
- Improve the quality and timeliness of annual financial statements—currently produced with a delay of 12 months and with little impact—with a clear picture of the overall health of public finances and cash flow to assist in decision-making.

Once the core PFM functions are operational, The Bahamas should focus on (1) establishing a well-designed and operational IFMAS to help quantify any budget adjustments needed to meet the fiscal rules and targets; (2) developing medium-term fiscal frameworks (i.e., longer than two years) and associated debt sustainability analysis, including contingent liabilities that will help formulate appropriate fiscal policies and meet those targets; and (3) facilitating the work of the legislature in its oversight role.

Subsequently, the government could introduce into the Fiscal Responsibility Bill an adjustment to minimize the cyclicity of fiscal policy (as currently written, the bill envisages that government spending moves with GDP) and thereby foster macroeconomic stability.

3.3.2. *Barbados*

Barbados is one of the most developed countries in the Eastern Caribbean and enjoys the second-highest per capita income in the region. When Barbados was hit hard by the global financial crisis of 2008–2009, the economy stagnated. Thus, the government implemented expansionary fiscal policies to foster a recovery, causing the overall public deficit to rise to the equivalent of almost 160 percent of GDP in 2017/2018. The government then embarked on a significant adjustment. As a result, overall fiscal deficits declined and, with a new administration, reached virtual balance in 2018 and surplus in 2019. The government took actions to improve performance, including by increasing the scope and level of taxation along with privatization efforts. In addition, the government initiated an exchange of debt instruments with the National Insurance (Pension) Scheme and the Central Bank to reduce the interest bill and engaged in a successful debt restructuring program with other domestic and external creditors in 2018, completed in late 2019.²² The earlier deficits gradually raised public debt from 63 percent of GDP in 2000 to 108 percent in 2010 and 158 percent in 2017, but with the adjustment the debt-to-GDP ratio declined to 125 percent in 2018, with a further decline to 116 percent estimated for 2019.

In support of the adjustment program, known as the Barbados Emergency Recovery and Transformation (BERT) Plan, the IMF approved a four-year Extended Arrangement for the equivalent of US\$290 million in October 2019. The program seeks fiscal consolidation, debt restructuring, and structural measures to support growth. These measures include reform of the state-owned enterprise system, the tax system, and public administration.

²² As indicated in Anthony, Impavido, and van Selm (2020), Barbados' 2018–19 debt restructuring made an important contribution to restore debt sustainability. It reduced public debt and put it on a clear downward trajectory. To ensure that it stays on that path, prudent fiscal policies have been implemented and should continue. Barbados' experience shows that debt restructuring can work as a policy response to an exceptional situation—while repeatedly restructuring the same debt is detrimental to market development and access, and to government credibility.

In line with BERT, the IDB and the Caribbean Development Bank together had disbursed US\$175 million in 2018. In April 2019, the IDB approved a new country strategy with Barbados for up to US\$300 million for sovereign-guaranteed loans over 2019–2023. Barbados has been the heaviest user of CARTAC over the last few fiscal years.

The proposed actions under BERT currently being developed or implemented deal with many of the weaknesses that have characterized the Barbadian economy and that contributed to the previous problems. It is imperative that these government commitments be implemented to attain fiscal sustainability and effective government operations. Among the key proposed fiscal actions are to:

- Implement PFM reform, including a new Financial Management and Audit Act to govern the financial affairs of government statutory boards and enterprises (i.e., state-owned enterprises).
- Establish an annual medium-term fiscal strategy framework that coincides with the proposed annual debt strategy and budgetary estimates of revenue and expenditure.
- Implement tax policy reform and tax administration upgrades.
- Reform state-owned enterprises, including legislation, mergers, operational consolidation and divestment, and monitoring and supervision.
- Stabilize and reduce debt through fiscal reform and debt management plans, including by centralizing and streamlining public sector debt management.
- Establish an annual medium-term debt management strategy to define debt goals, assess portfolio risks, and set achievable long-term targets on a continuous basis.
- Undertake strategic market-neutral liability management operations to smooth debt service requirements and address portfolio risks.
- Adopt a risk framework to quantify contingent risks and improve the management of guarantees.

For these purposes, the government is conducting a comprehensive review of the tax system with technical assistance from the IDB and IMF, and with the commitment for Parliament to introduce the ensuing reforms.

The Barbados Revenue Authority and the Customs Department will be reformed by enforcing and increasing on-time filing for the corporate income tax and the VAT from current low levels, while emphasizing modernization of ICT systems. A Large Taxpayer Unit has recently

been established, and a maximum limit of 60 days is now in place on the payment of tax refunds to reduce arrears. Domestic expenditure arrears are being reduced and resolved, with no new expenditure arrears expected.

A Public Financial Management Act passed in January 2019 introduced wide-ranging measures to strengthen fiscal transparency and accountability. Parliament is also expected to approve a fiscal rule that enhances fiscal transparency and outlines an explicit path to sustainability, with rules to correct significant deviations, except for extraordinary circumstances. A mid-year budget review will be prepared for discussion by Parliament on a regular basis.

The government will strengthen the efficiency and quality of the procurement process to improve competition and reduce costs, including by establishing an independent entity to review the contracts of the government and state-owned enterprises.

The government will seek to improve the efficiency, quality, and cost effectiveness of the public sector, with greater emphasis on capital expenditure based on what is essential, what is highly desirable, what is optional, and what is best delivered.

State-owned enterprises are now required to submit standardized reports, and the government has already submitted its first consolidated report on the performance of those enterprises to Parliament (to be repeated on an annual basis) together with the budget estimate.

While the initial actions of the government are impressive, it is important to emphasize the need for other urgent and significant actions to strengthen the practices noted below and make the process of reform effective. Moreover, the institutional and structural reforms behind these measures are key for the long-term success of the current reform program in the medium term. Critical practices that need to be put into place include:

- Review the organization and functions of government structures to help reduce duplications and inefficiencies across the public sector.
- Deal with expenditure payment arrears by developing a system that provides information on the stock of these arrears in a comprehensive manner.
- Prepare the budget on a timely basis with guidance provided ahead of budget preparation.
- Cost out sectoral strategies and frame them in a medium-term perspective.

- Promptly reform procurement, including weaknesses in the areas of competition, costs, exceptions, and clear and transparent legislation and regulatory practices. Credible methods for contractor appeals also need to be established. Procurement is mostly run by state-owned enterprises. Every large procurement contract takes a long time due to limited personnel and is aggravated by civil court delays in the event of a dispute. Contracting and advertising practices are not standardized, creating problems for a level-field tendering process.
- Strengthen internal and external auditing, with prompt corrections if irregularities or faults are observed. The scope and timeliness of legislative oversight and scrutiny is of the essence, and recent actions of government seem to address this.
- Modernize ICT and digitalization systems, as they are essential for the government program to be implemented effectively and successfully. An important addition should be the interface of the existing ICT systems to coordinate the work of the different agencies. Clear targets should be established to incorporate the most used government procedures online, with special attention to cybersecurity. Resources must be allocated accordingly.
- Simplify existing bureaucratic procedures to move away from inefficient and paper-based bureaucratic processes that absorb significant time and resources for residents to complete procedures.
- Update the legal framework related to digital government and cybersecurity, though this is not a prerequisite for undertaking the previous proposals, and start facilitating the relationship between government and citizens.

Barbados is well advanced in terms of the acquisition of best practices regarding its PFM, even though several areas still require work. With the legal and regulatory structure in place, other areas to be covered include the development of a medium-term strategy with a clear fiscal rule, now helped by the agreement of Barbados with its creditors. Consolidation of the process could eventually be enhanced by moving to a system of accrual management in parallel with the current cash system, and by creating a permanent or periodic Fiscal Council of Experts to promote sound fiscal policies and responsibility within longer-term aims and policies.

3.3.3. Guyana

Guyana is at a critical point in its development trajectory. The oil sector is projected to provide additional fiscal resources over the medium term,

which would help address much-needed social and infrastructure spending. The operation of the recently established Natural Resource Fund along the lines discussed in Chapter 6 of this volume would be critical for managing Guyana's oil wealth, as it would provide an appropriate framework to save some of the resource earnings for future generations and contain the pickup in public spending. A medium-term public debt strategy would help frame fiscal policy. For the shorter term, there is a pressing need to complete the legal and regulatory framework for oil and gas before the revenue streams begin. At the same time, given that the authorities have not been able to achieve optimal levels of public service delivery with available resources, Guyana needs to further strengthen PFM processes and systems to enhance the operational efficiency of service delivery and translate economic returns into improved outcomes.

In recognition of the above-mentioned challenges, Guyana has adopted a long-term strategy, The Green Sustainable Development Strategy: Vision 2040. The goal of the strategy is "an inclusive and prosperous Guyana that provides a good quality of life for all its citizens based on sound education and social protection, low-carbon and resilient development, providing new economic opportunities, justice and political empowerment." In recent years, the authorities have also endeavored to improve institutional capacity, including significant strengthening of some aspects of PFM processes and systems such as tax administration (despite a complex tax system and unpredictable and volatile revenue) and internal controls (with IDB assistance), as well as budget credibility. However, considerable weaknesses remain in several areas.

As noted in the IDB's Country Strategy for Guyana for 2016–2020, the enactment of the Fiscal Management and Accountability Act of 2003 led to improvements in public financial management. The act, together with the Audit Act (2004) and the Regulations for the Audit Act (2005), regulated internal auditing, although most ministries remain without internal auditing offices. In addition, ICT upgrades and capacity-building fostered sustainability and improved transparency in Guyana's public institutions.

Nevertheless, the Country Strategy stated that PFM was still inadequate. On the PRODEV index, Guyana scores 2.0 on PFM, well below the regional average of 2.9. Public expenditure and financial accountability assessments identify weaknesses across the following key areas:

- Transparency in intergovernmental fiscal relations, including lack of information on the resources received by delivery units.
- Management of assets and liabilities.
- Policy-based fiscal strategy and budgeting.

- Predictability and control in budget execution, including insufficient legislative scrutiny of external audit reports.
- Uncompetitive procurement, resulting in substandard provision and low value for money, and procurement inefficiencies, together with a lack of feasibility studies and rigorous project appraisals, which result in lower implementation and investment inefficiency.
- Lack of any tender notices on the National Procurement and Tender Administration's (NPTA) website, which contradicts international practice.
- Inefficient and paper-based bureaucratic processes.

The Country Strategy further notes that fiduciary assessments identify specific areas for improvement for Guyana's public investment management, particularly in state-owned enterprises, as the current framework undermines the provision of quality public services and the efficiency of expenditure management.

To address these weaknesses, there is a need for reforms to:

- Simplify the budget classification system, which is rather complex, with many programs, sub-programs, and activities, and many economic classification codes.
- Improve the accounting, recording, and reporting systems.
- Improve transparency, including through performance information for service delivery, and, similarly, provide more detailed information (currently available only at aggregate levels) in in-year budget reports.
- Enhance public investment management, fiscal risk reporting, and public debt management.
- Complete the upgrade of the IFMAS to allow the government to implement a sole PFM platform for all public expenditures (and thereby avoid payment arrears), streamline budgetary processes, phase out payments by check, and further implement a TSA.
- Strengthen the budget preparation process, macroeconomic and fiscal forecasting, fiscal strategy, and medium-term perspectives in expenditure budgeting.
- Strengthen external scrutiny and audit, including legislative oversight.

Public Procurement

Public procurement is a critical area that needs prompt improvement, as it represents about a quarter of the budget and plays a critical role in

executing public investments and determining the price, quality, and timeliness of public services. Even though the Procurement Act was passed in 2003, and despite subsequent improvements,²³ procurement practices continue to receive the lowest scores (D) in successive PEFA assessments, reflecting poor competition, value for money, and procurement controls. Furthermore, considerable gaps remain, particularly regarding the institutional framework and management capacity, market practices, and transparency of the system, as well as the ongoing need to achieve the objectives of fairness, transparency, and best value. Weak linkages between in-year budget adjustments and procurement plans and internal control weaknesses within personnel and procurement management are among the shortcomings identified as hampering improvements in the operational efficiency of service delivery. Further, despite several assessments in the past 15 years, little progress has been made to measure and publicly report data in critical areas such as competitive tendering. Public protests related to corruption in the procurement process exacerbate the perception that large swathes of the procurement process are closed to some bidders. To address these gaps, steps are needed to:²⁴

- Strengthen the NPTA and the monitoring and oversight role of the Public Procurement Commission.
- Include procurement below the threshold stipulated in law in NPTA reports—the low rating mentioned above reflects the large amount of procurement outside the NPTA's remit, such as that conducted by agencies and state-owned enterprises.
- Establish an impartial appeals/complaints mechanism, as provided for in the Procurement Act.
- Abandon the use of non-competitive procurement methods—competitive methods account for 72 percent of purchases of goods, services, and works.
- Reinforce monitoring of contract implementation to ensure quality and pricing.
- Provide full transparency to the procurement process, for example by making information available on procurement and contract awards and introduce an interactive procurement portal.

²³ To help address some of these weaknesses, the IDB provided technical cooperation in 2014 to (1) modernize public procurement, (2) strengthen PFM to streamline the allocation and management of public resources, and (3) upgrade and implement technological platforms for expenditure systems.

²⁴ The 2019 Budget Speech recognized the importance of a sound PFM system and stressed the government's commitment to improving it.

- Describe and make public the extent to which the NPTA assists government agencies in pre-qualifying bidders, preparing selection criteria for this higher-valued procurement.
- Implement the Procurement Act requirement to publish procurement awards within seven days of the award (article 11.1) to enhance transparency; similarly, disseminate data about the resolution of procurement complaints.
- Update legislation to enable electronic transactions and implement training and certification as well as an e-tendering system.
- Establish internal and external procurement audit capacity.
- Expand the National Procurement Tender Board to include full private sector participation and ensure membership rotation to improve its effectiveness.

Public Investment Management

Another key area that needs strengthening is public investment management. The recent Public Investment Management Assessment report of the IMF²⁵ indicates that Guyana's public investment management (PIM) has many desirable features. Nevertheless, the PIM system in Guyana is 1.5 times less efficient than comparable countries. Despite a relatively high capital stock, Guyana has an estimated efficiency gap of 41 percent compared to 30 percent in Latin America and the Caribbean countries, and 27 percent in Emerging Market Economies.²⁶ The efficiency of the PIM system is affected by significant weaknesses in the planning, budgeting, appraisal, selection, procurement, and implementation of capital projects. These weaknesses have important implications for key areas of public investment management. Investment planning, both national and sectoral, does not appear to be guided by an explicit fiscal objective and is not constrained by a medium-term fiscal envelope. The Medium-Term Budget Framework lacks solid indicative forward estimates to guide capital spending budgeting. There are no annual or medium-term ceilings on capital or recurrent spending, and published information on full life-cycle costs of capital projects is not comprehensive. As noted above, there are significant gaps in the procurement framework, leading to implementation inefficiencies.

²⁵ Murara et al. (2017).

²⁶ The efficiency gap is defined as the potential benefits of public investment lost due to an inefficient investment process.

Information Management Systems

Weak information management systems are a significant factor affecting the efficiency and transparency of Guyana's public sector. Despite some improvement between 2009 and 2013, Guyana still shows scores not higher than 2 out of 5 on the five dimensions of the IDB's Management for Development Results agenda (Cuesta et al. 2015). Moreover, Guyana's overall score of 56.7 on the World Bank's Statistical Capacity Indicator for 2015, compared with 77.3 for Latin America and the Caribbean,²⁷ reflects weaknesses in human, technical, and physical capital; the methodological soundness of data collection, documentation, and dissemination; standardization of databases; and quality control across the National Statistical System.

The strengthening of Guyana's ability to produce, manage, and use timely, relevant, and clear data on performance is an essential input to decision-making processes and to monitoring and evaluation activities, particularly for results-based budgeting. Improvements in this area will make the public sector more effective and efficient, while strengthening its accountability, and thereby help prevent misuse of funds.

Once Guyana has reinforced the above core PFM functions, the country will be in a strong position to implement further reforms to the PFM system. First it is important to strengthen the legal framework to promote fiscal responsibility. Second, Guyana needs to develop a set of policies and procedures to help control fiscal risks, including external shocks, natural disasters, and contingent liabilities, and thus support the subsequent establishment of numerical fiscal rules (see Chapter 5). Given the considerable importance of the commodity sector in Guyana's economy, especially with the onset of oil production, the country needs a transparent rules-based framework for fiscal policy, including the Natural Resource Fund.²⁸ These rules would help reduce the impact of the commodity price cycle. These issues are addressed in Chapter 6 of this volume.

To attain these objectives, it is crucial to build the capacity to independently develop a medium-term budget framework within which the annual budget would be formulated. This will help enhance the development of

²⁷ The World Bank's Statistical Capacity Indicator Dashboard is available at <http://datatopics.worldbank.org/statisticalcapacity/SCIdashboard.aspx>.

²⁸ The Natural Resource Fund follows the Generally Accepted Principles and Practices of Sovereign Wealth Funds (the Santiago Principles). Guyana is committed to implement the Extractive Industries Transparency Initiative, the global standard for good governance in the exploitation of oil, gas, and mineral resources.

effective public investment management, including the incorporation of the operating and maintenance cost of projects.

The establishment of a fiscal council could be subsequently considered. The council could also help determine the long-term commodity prices that guide the budget and the fiscal medium-term framework. Moving from cash to accrual budgeting could be implemented once all other PFM functions work efficiently.

3.3.4. *Jamaica*

The Jamaican economy is heavily dependent on services, particularly tourism, as well as remittances from Jamaicans abroad. The country's economy grew on average by less than 1 percent a year over the last three decades, with many impediments to growth, including a large public sector that crowded out spending on important projects. To address these problems, Jamaica embarked on a major corrective path in 2013 that has resulted in a decline in the debt-to-GDP ratio from a high of almost 150 percent in 2012 to about 100 percent in 2018. Corrective measures resulted in a sharp narrowing of the public-sector deficit, which turned into small surpluses in recent years. This adjustment process has delivered strong results, supported by successive IMF programs and continued large IDB assistance.²⁹

The reform effort featured considerable actions in tax administration, including intensified arrears collection and tax registration and filing.³⁰ Tax policy reforms included (1) transparent incentives that minimized the room for ministerial discretion; (2) broadening of the VAT base to include government purchases, electricity, and some foodstuffs; and (3) implementation of the Employment Tax Credit.³¹ In addition, the government

²⁹ Through the Fiscal Structural Program for Economic Growth (FISPEG) (JA-L1038), the IDB helped prepare the legislative amendments that established a Fiscal Rule, which specifies deficit and debt reduction targets. It also assisted in the creation of policy- and technical-level committees that oversee and guide debt placement and management, as well as the start of restructuring of the Debt Management Branch.

³⁰ Indeed, the main objectives of the tax reform, reduction of tax expenditures and broadening of the tax base under the program, were achieved. It was estimated under a counterfactual simulation that without tax reforms, annual GDP growth would have been almost one percentage point lower. In addition, unemployment rates would have been higher, and with lower growth in the primary sectors. Moreover, both the direct and indirect progressive effects of the policy package, even with delayed implementation, have been favorable for the average Jamaican household (see World Bank 2019).

³¹ The IDB has been a major partner on tax policy and administration through the above-mentioned loan, the Fiscal Administration and Modernization Program (JA-L1039),

strengthened the Large Taxpayers' Office, which yields half of revenues from the corporate income tax. Amendments to the Revenue Administration Act have allowed for compelling third-party information to be cross-checked with taxpayer information and activities, with generally better compliance. Also, efforts have been made in building the capacity for tax administration staff. In terms of PFM, Jamaica created a comprehensive plan to expand the TSA.

As a result of these reforms, budget credibility has generally improved in terms of aggregate budgeted expenditure and outcomes, reflecting tight budgetary guidelines. However, significant modifications are still needed in expenditure composition. Revenue outcomes have tended to lag budget projections, although performance has improved more recently. Parliamentary oversight is impaired by the timing of the submissions of expenditure estimates and revenue, and because they are debated independently from one another. Further, the relevant legislative committees have had serious capacity constraints to conduct the required analysis.

Information in budget documents is comprehensive, and the budget classification is broadly compatible with international standards. The extensive budget documentation is comprised of a complete series of economic and financial information, but it could stand to be simplified. The budget reflects government policy, and progress has been made through the introduction of medium-term fiscal forecasts. The process of integrating sector plans and recurrent and capital expenditure budgets appears to be solid.

External audit reports are generally submitted to the legislature in a timely manner, as required by law. The scope of these reports has significantly increased, and although this allows in principle for broader and deeper scrutiny, capacity-building of the auditing bodies has lagged. Overall, there seems to be no systemic approach to address recurrent weaknesses in the PFM system.

The new organizational structure of the Accountant General Department aids in its transition to becoming a modern treasury and enhancing

and technical cooperation (JA-T1066). As acknowledged in "Comparative Evaluation: Review of Bank Support to Tax Policy and Administration, 2007–2016" produced by the Office of Evaluation and Oversight in June 2017, the IDB has enhanced the soundness of its technical work and developed substantial expertise in tax policy, which have strengthened the Bank's reputation in fiscal matters and positioned itself as a trusted advisor, especially in Central America and the Caribbean. In Jamaica, the Bank's swift work with organizations that assumed the role of "reform champions" and its implicit partnership with the International Monetary Fund (IMF) served to advance the reforms.

its capacity. The Bank of Jamaica's TSA has not yet become the sole operational account to deal with the government's cash position. There is a need to review legal provisions for all revenues to be paid into the Consolidated Fund and to improve accounting and fiscal reporting.

In addition, the Government of Jamaica is taking steps to improve governance and tackle corruption by:

- Establishing the Integrity Commission, which has investigative and prosecutorial powers, and finalizing the legislative framework underpinning the activities of the Major Organized Crime and Anti-Corruption Agency.
- Implementing a Competency Profile Instrument for the Boards of Public Bodies that allows for the selection and appointment of members who collectively possess the skills and experience deemed necessary for the effective functioning of the public body.
- Implementing the Board Performance Evaluation Instrument to assess boards of public bodies and individual directors to ensure that they discharge their functions appropriately and to develop policy guidelines for the appointment of those boards (IMF 2019).

The progress made in Jamaica in recent times has been reflected in the government effectiveness sub-index of the World Bank's Worldwide Governance Indicators. However, several areas remain weak, mainly on the expenditure side of public sector actions:

- While budget performance in overall terms is conducted well, expenditure composition outturn by function has not been conducted satisfactorily and needs to be reinforced.
- All government-related commercial bank accounts should be eventually migrated to the TSA in the Bank of Jamaica. As of mid-2019, there were more than 3,000 accounts holding significant amounts of government funds (equivalent to about 2 percent of GDP) outside the TSA, mostly held by educational institutions. In the interim, these accounts should be actively monitored, including through the adoption of international norms (already under way) to improve reporting and monitoring capabilities. In addition, performance information for the delivery of services, which determines the effectiveness of government spending, seems to be lacking with respect to performance in delivering services, the amounts effectively spent by delivery units, and evaluation of service delivery.

- These weaknesses reflect continued excessive bureaucracy, duplication of functions, underutilization of ICT, and uncoordinated operations, resulting in high transactional costs and the absence of economies of scale.
- The government has focused its attention on the need to tackle the presence of corruption in the provision of services, which suggests the need for an overarching monitoring and review mechanism. The problem is particularly acute in state-owned enterprises.
- These problems are related in part to the lack of a consistent human resource strategy across the public sector, not only between the government and agencies, but also within the government itself. For this purpose, the government could develop a database of possible pre-screened candidates to draw on when openings arise. Furthermore, the government could establish an online portal for an anonymous whistle blowing program for submission of tips and provide rewards for information that directly leads to the return of stolen goods or misused funds.
- While the government has made efforts to complete its task of developing a comprehensive TSA, the number of commercial accounts in use outside the TSA negates the usefulness of the principles of unification of accounts for purposes of cash management, corruption control, and budget preparation, especially in the education sector.
- There is a poor process of government monitoring of subnational and autonomous agencies, including state-owned enterprises and the pension system. This is aggravated by poor public access to fiscal information and still-incomplete implementation of strong auditing and legislative supervision.
- The weakness in service delivery and effective use of funds is hindered by the poor analysis and project selection of public sector investment projects.
- Procurement procedures are defective in practice, with insufficient transparency and thus competition.
- Transparency and accountability are hindered due to the lack of published audited financial statements that would help monitor the government's use of public resources. Although central government budget execution reports are published annually with good coverage of the various budget components and easily comparable budgeted amounts, monthly statements need to be improved to provide a full picture of the state of government finances.

- The published financial statements need to cover all revenues, expenses, assets, and liabilities of the government, a core objective of the PFM principles. As noted earlier, this is particularly concerning regarding state-owned enterprises, educational institutions, and the pension system.
- Finally, the process of submitting reports for external auditing is defective. More importantly, and as noted above, the legislative process to review public finances is not transparent, and thus is of only limited use to the public. Audited financial statements should be published on a timely basis in line with international accounting standards, including all revenues, expenses, assets, and liabilities.

If progress is made in the above-mentioned areas, Jamaica will be in a strong position to implement further reforms to the PFM system. First, it is important to strengthen the legal framework to reinforce PFM and fiscal responsibility. Second, the country needs to develop a framework to help control fiscal risks, including external shocks, natural disasters, and contingent liabilities. These steps are prerequisites to establishing numerical fiscal rules. Jamaica would be well served by adding fiscal rules that bound the overall deficit and public debt (see Chapter 5).

To attain these objectives, it is crucial to build the capacity to independently develop a medium-term budget framework within which the annual budget would be formulated. This would enhance development of effective public investment management, including incorporation of the operating and maintenance cost of projects. For this purpose, a comprehensive process of public investment management needs to be established within government priorities, and with an emphasis on adequate value for money and service delivery. In addition, there is a need to strengthen the system of accrual management in parallel with the current cash system.

The establishment of a fiscal council could be subsequently considered. The council could also help determine the long-term trends that guide the budget and the fiscal medium-term framework. Moving from cash to accrual budgeting could be implemented once all other PFM functions work efficiently.

3.3.5. *Suriname*

Suriname is a small, open commodity-based economy with high exposure to external shocks. Its exports are concentrated on gold, oil, and, until recently, bauxite, all of which together account for 90 percent of exports and almost half of revenues. Benefiting from high export prices, Suriname

grew at an average annual rate of 4.7 percent during 2004–2013. However, as commodity prices fell, GDP contracted at an average annual rate of 3 percent during 2014–2016, with a subsequent moderate recovery as terms of trade improved.

The non-export sector relies greatly on public spending on goods and services, infrastructure, and, importantly, wages and salaries of employees in the public sector and public enterprises. In response to the fall in commodity prices, Suriname’s vulnerabilities came to the fore. The external current account shifted from a large surplus to larger deficits, while the fiscal deficit widened concurrently.

To support a stabilization plan put forth by the government, the IMF approved a two-year Stand-By Arrangement in May 2016. The IDB also sought to support these efforts, focusing on revenue and expenditure measures in the short term. In the longer term, the programs focused on modernization of the state, private sector development, and the strengthening of human capital (IDB 2016).

Within the stabilization plan, the IDB estimated approvals totaling US\$320 million over the four-year period. Although the program design was appropriate, implementation of the program was more difficult than initially envisaged by the authorities because of Suriname’s difficult circumstances. Due to serious concerns about the social and political implications of reducing energy subsidies and increasing gasoline taxes, the government cancelled the program in May 2017. Consequently, the fiscal deficit remained high, debt doubled to almost 80 percent of GDP, and inflation accelerated. Structural reforms were not implemented to the extent expected, and serious problems remained in the public sector and, specifically, in the PFM system.

However, progress has continued to be made in various areas, including the fiscal situation, as the economy has recovered more recently. In 2017, the National Assembly approved legislation for a Saving and Stabilization Fund due to become operational in 2019. According to the legislation, the authorities will run fiscal surpluses when mineral proceeds are high and use these surpluses when the cycle changes (IMF 2018; Khadan 2018).

In addition, the authorities have embarked on a program to strengthen the framework for implementing fiscal policy. This program is supported by a US\$40 million IDB loan and features three major components:

- *Strengthening revenue administration (including taxpayer services)*: This includes strengthening internal revenue operations (including by issuing new tax identification numbers for all taxpayers), improving customs operations (including through new

procedures for the eventual implementation of the VAT), and reviewing and updating the legal framework for tax and customs administration. In the longer term, the tax department will be transformed into a modern, semi-autonomous agency that uses a risk-based approach to collect revenues.

- *Improving public financial management:* To improve budget planning and execution, the authorities have introduced a new PFM law for consideration by the National Assembly and a new procurement law harmonized with the Caribbean Community that will improve competition and transparency in public contracting. Besides upgrading the legal framework, the Ministry of Finance intends to improve its business model for budget planning, bolster the medium-term fiscal framework, strengthen treasury operations, and improve internal controls.
- *Strengthening the public investment system:* The objective is to prioritize investment projects by establishing a public investment and public-private partnership unit and introducing an operational plan for planning, pre-investment, and feasibility studies in public infrastructure and public-private partnerships.

While the proposed actions would deal with significant aspects required for an effective PFM, passing the legislation and developing a strategy and processes are crucial and require priority treatment by the authorities. This applies to revenue administration, particularly because oil and metal exports currently cover half of revenues, and because the expenditure system is highly bureaucratic. As for procurement, it remains one of the weakest areas in terms of the execution, information, and transparency of processes and the accumulation of data, making this an area where legislation does not seem to have achieved the desired results (IDB 2016).

Budget execution and fiscal policy have been constrained by an outdated budget design and execution regime, basically established before independence. Elements such as medium-term fiscal planning, debt management, and commitment controls have shown progress, but this is not the case in other areas. The credibility of the budget is affected by high variances between budgeted and actual expenditure composition, even though aggregate expenditure outturn is in line with the budget. Revenue outcome tends to differ from programmed amounts, given the volatility in revenue from commodity exports.

One serious problem is the presence of 75 autonomous government agencies covering many areas of Suriname's economy. There is no information on their overall expenditures, except when they report to the Ministry of

Finance to solicit subsidies. The central government has limited control over the economic activities of these entities. The establishment of a treasury has helped in the management process, but the task is far from complete.

As discussed, medium-term planning has improved, and the budgeting process and transparency in the central government is reasonable, with a good understanding of the government's priorities. This needs to be supported by integrating the activities of parastatals, which tend to either not report at all or not report on time, thus leaving large areas of activity outside of the review and control of the government.³²

In this context, the authorities need to establish an integrated system to assess public investment projects to determine how they fit with government priorities. At present, ministries and autonomous institutions proceed without the required quality control and without a complete perspective on the impact of these projects in the medium-term regarding maintenance and other recurrent costs. Other areas that need strengthening include the following:

- The process of execution and control of the budget negatively affects the ability of the government to guide and control public expenditure not only within the budget year but also in the medium term.
- Weak reporting within the annual budget is compounded by serious delays in the presentation and approval of the budget by the National Assembly, which in fact results in delayed approval and thus voids the legislative review and audit necessary for a truly transparent process of budget preparation and execution.
- There is a need to introduce fiscal risk analysis in order to assess the risks associated with natural disasters and external economic turbulence, and to determine how to provide for these risks in the budget. Preferably this could be done through a trend approach for expenditure and mechanisms to absorb resources in times of bonanza. Furthermore, the government needs to focus on contingent liabilities, as well as on the treatment of the actual increase in liabilities as the contingencies are realized.
- The administration of domestic taxes needs to be reinforced as a crucial effort towards diversifying revenue sources away from the country's current dependence on exports.

³² According to CARTAC's Technical Assistance Priorities for Suriname reported in December 2018.

- The strategic allocation of resources is hindered by deficiencies in the collection and systematization of information on budget execution and the corresponding output. In practice, neither the government, the Supreme Audit Institution (in charge of auditing government financial activity), nor the National Assembly have completed the auditing of accounts required by law on time.
- While there is an elaborate control system overseen by the Ministry of Finance prior to payments (salaries and non-salaries), and the TSA ensures a good overview of cash resources, there is no full implementation of these procedures. There remain parallel accounts that weaken the benefits of the TSA. Also, with no adequate internal audit of expenditure, the initial approval process loses efficacy, and may result in large disparities between approved and executed projects and financial allocations within the government. These areas require priority and vigorous central government intervention.
- The review and assessment process needs to be strengthened by requiring the timely and complete delivery of the accounts of the parastatals in order to execute and monitor achievement of government targets in terms of the efficiency and quality of service delivery.
- Current liability (debt) and cash management and control mechanisms need strengthening. Asset management is decentralized, which is called for in many cases involving quasi-commercial institutions. Thus, a regulatory framework to monitor asset management in practice needs to be established. This is a necessary component of an effective PFM to allow for an integrated process of investment, delivery of goods and services, and maintenance of government assets.
- Public procurement needs to be strengthened, as it is hindered by limited effective competition, poor value for money, and limited procurement controls and information. Suriname's public procurement system is constrained by a decentralized and old legal framework dating to 1952. The importance of this effort is considerable, given that annual procurement averaged more than 10 percent of GDP in recent years. The key weaknesses of the current system include (1) the lack of a centralized general regulatory framework with oversight and policy functions; (2) no uniformity of procedures across agencies; (3) the lack of a procurement complaints mechanism; (4) poor technical training and career

prospects; (5) the absence of a portal that can provide basic information on public procurement processes and regulations for purchasers and suppliers, and that can generate statistical data; and (6) no uniformity in reporting, collecting, or maintaining procurement information. A new procurement law supported by the IDB program has been drafted and submitted to the National Assembly.

- A core PFM element that needs improvement is implementation of the transfer of auditing functions among institutions. The maximum auditing authority has been transferred from the Centrale Landsaccountantsdienst (Internal Audit Department) to the Rekenkamer van Suriname (Supreme Audit Institution). In the process of transition, the auditing process has been weakened and needs to be reestablished.

If progress is made in the above-mentioned areas, Suriname will be able to implement further reforms to its PFM system. First, it is important to strengthen the legal framework to reinforce PFM and fiscal responsibility. Second, a framework needs to be developed to help control fiscal risks, including external shocks, natural disasters, and contingent liabilities. These steps are prerequisites to establishing numerical fiscal rules. The country would be well served by adding fiscal rules that bound the overall deficit and public debt (see Chapter 5).

To attain these PFM objectives, it is crucial to build the capacity to independently develop a medium-term budget framework, within which the annual budget would be formulated. This would enhance the development of effective public investment management, including the incorporation of the operating and maintenance cost of projects. For this purpose, a comprehensive process of public investment management needs to be established within government priorities, and with an emphasis on adequate value for money and service delivery. In addition, there is a need to strengthen the system of accrual management in parallel with the current cash system.

The establishment of a fiscal council could be subsequently considered. The council could also help determine the long-term trends that guide the budget and the fiscal medium-term framework. Moving from cash to accrual budgeting could be implemented once all other PFM functions work efficiently.

All the actions mentioned above require a strong legal framework and the intent and capacity to implement it, including clear sanctions in the absence of actions in this regard.

3.3.6. *Trinidad and Tobago*

Natural resource-dependent countries often have institutional weaknesses, and Trinidad and Tobago is no exception. Weak institutions have in the past undermined the country's growth potential and the degree to which public spending and revenue collection advance citizen welfare (Loser and Fajgenbaum 2018).

Following a critical PEFA report in 2008, Trinidad and Tobago sought support from the IDB to strengthen the country's PFM functions.³³ The IDB provided technical assistance to the Auditor General's Department to address governance and institutional weaknesses, most notably in the areas of audit coverage, accounting practices, and professional skills. This initiative heightened the independence and public accountability of the auditor general. The IDB helped improve IT, human resources, and codes of ethics, and supported the drafting of the Public Procurement and Disposal of Public Property Bill. The bill passed in early 2015, but its associated regulations are still in the process of being implemented. The objectives are to reform the existing system by enhancing transparency, efficiency, and accountability in public procurement.

However, deficiencies remain in PFM and procurement systems in Trinidad and Tobago. The IDB's 2016–2020 Country Strategy noted that these deficiencies severely undermine the government's capacity to formulate and execute its budget and public service delivery (IDB 2017). As a result, Trinidad and Tobago underperformed the Latin American and Caribbean average in the 2013 PEFA Assessment indicators related to policy-based budgeting and procurement.³⁴ Moreover, according to the most recent Annual Report on Performance prepared by the Ministry of Planning and Sustainable Development, only half of the budget was monitored as of 2013.³⁵ Trinidad and

³³ This support has taken the form of technical cooperation as well as lending, including strengthening the government capacity to manage for results, designing and implementing public finance management reform, supporting implementation of a new procurement framework, and strengthening the country's Public Financial Management System.

³⁴ The assessment shows limited improvements in the PFM framework relative to 2008. However, the objective of the assessment was limited, as it focused on assessing the capacity of the PFM systems to support sound fiscal policy and financial management.

³⁵ The report is rife with missing data, notably in the education and health sectors. These deficiencies are reflected in Trinidad and Tobago's relatively low score (0.6 out of 5 in 2007, 1.9 in 2013) on the Monitoring of Government Management category of the Monitoring and Evaluation pillar of the PRODEV Evaluation System.

Tobago also lacks good-quality and timely budget information, which is a constraint on decision-making concerning budget management and public service delivery.³⁶ The country is receiving support from the IDB to develop an integrated electronic system to manage budget planning and monitor execution.

The 2013 PEFA noted other significant weaknesses in the following areas:

- Large variances between budget estimates and outturns, which hamper credibility.
- Although there is a careful risk assessment framework for the operation of public enterprises, not all major enterprises are fully complying with the requirements to make the system fully effective—both statutory bodies and state-owned enterprises underperform significantly, with important fiscal implications.
- The links between investment projects that enter the public investment pipeline remain qualitative. Although all projects included in the public-sector investment programs are approved, they are not developed within realistic fiscal aggregates (e.g., the development budget process is not guided by ceilings). The IDB is providing training to support the authorities in improving PIM.
- Internal audit remains rudimentary, raising concerns about its effectiveness.
- While consolidated accounts are prepared annually, there is no reporting on non-salary expenditure returns.
- The recommendations made by the auditor general are not enforced.
- Parliamentary debate of fiscal policies is constrained by the limited time allocated to budget oversight both *ex ante* and especially *ex post*.³⁷

In this context, the IDB approved a loan in support of the government's effort to strengthen PFM systems and processes. The specific problems to be addressed were (1) budget preparation systems that do not facilitate thorough and transparent allocation and execution of central government

³⁶ Inadequate quality of the economic and social statistics produced by the Central Statistical Office compound the challenges posed by poor information from PFM and procurement systems.

³⁷ For example, legislative oversight can be strengthened by having a formal pre-budget policy debate in Parliament.

funds and that limit the budget planning perspective; (2) an internal audit framework that does not enable the necessary arrangements for effective exercise of control and stewardship in the use of central government funds; and (3) information management systems that adversely affect data collection and dissemination, decision-making, control, management, and reporting activities.

To address these problems, Trinidad and Tobago needs to strengthen its PFM system in order to enhance budget planning and implementation and to increase transparency and accountability. Specifically, this strengthening needs to include:

- Introduction of an Integrated Financial Management Information System (being developed with IDB support) to collect real-time data from all line ministries and delivery units (including training for government officials);
- Firm implementation of the Procurement Law to enhance competition, value for money, and controls in procurement;
- Initiatives to enhance monitoring and evaluation of budget planning and execution, as well as openness in public reporting; and
- Actions to strengthen public agencies with regulatory mandates.

In its Results Matrix, the IDB's 2016–2020 Country Strategy also notes additional core PFM functions that need improvement, taking into account the country's weak ratings in the 2013 PEFA assessment. The needed improvements cover:

- The multi-year perspective in fiscal planning, expenditure policy, and budgeting, which is critical if Trinidad and Tobago, a country largely dependent on commodity exports, is to implement the fiscal rules discussed below;
- The availability of information on resources received by service delivery units; and
- The efficiency of public expenditure (also noted as a weakness in the World Economic Forum's *Global Competitiveness Report* (WEF 2018).

Under current arrangements, the country's procurement framework is opaque and ill-equipped to efficiently manage large-scale government purchasing of goods, works, or services, and ensure value for money. It is an amalgam of decentralized and centralized purchasing by the central government, state-owned enterprises, special-purpose companies,

and statutory authorities.³⁸ Most of these entities are not subject to the same regulatory authority as other state bodies, creating a gap in reporting, accountability, and governance. The Central Tenders Board ordinance and its amendments have prescribed public procurement since 1961, but the board is often bypassed in the highest-risk, most valuable, and most difficult procurement instances.

To align the national procurement system with good governance principles and best practices, Parliament passed the Public Procurement Act in early 2015. A Procurement Implementation Steering Committee and an Oversight Committee were established to guide the processes needed for the law to become operational. Under the Public Procurement Act, the Central Tenders Board is to be eliminated, and the new legislation will cover procurement activities of all bodies, irrespective of the source of the funds involved, if the state is ultimately liable for the procurement expenditures. However, the transition has been substantially delayed because of challenges to the regulatory framework that would guide implementation of the act.

Notable data gaps impede fiscal policy analysis. Disaggregated data on revenues and expenditure are not available. Financial statements and figures on debt, employment, and transfers to and from public bodies are not publicly available. Data limitations prevent analysis of the performance of state-owned enterprises or of the government liabilities that are incurred by those enterprises. Data gaps also limit the assessment of tax expenditures, such as waivers on arrears and interests, lower income tax rates, etc. In these circumstances, and in line with the IDB's in-depth diagnostic in 2013 (TASC41) administered jointly with the Central Statistical Office, the government introduced a bill in June 2018 to transform the Central Statistical Office into the National Statistics Institute of Trinidad and Tobago. This legislation aims to establish a trusted and strong institution to produce accurate statistical information and have an impact on all sectors of the economy, government, and society.³⁹

Over the years, government administrations in Trinidad and Tobago generally pursued damaging procyclical policies in response to the high volatility of world energy prices. To avoid these policies, Trinidad and

³⁸ Off-budget and non-transparent expenditures by public bodies have been increasing. For example, the number of public bodies in the government portfolio increased by 33 percent from FY2012 to FY2015, primarily reflecting a surge in indirectly owned public bodies, which are generally subsidiaries of fully owned, majority-owned, and/or minority-owned state-owned enterprises.

³⁹ Passage of the bill requires a special majority of three-fifths in each parliamentary house.

Tobago established the Interim Revenue Stabilization Fund (IRSF) in 2000 to help insulate fiscal policy and the economy from adverse swings in world energy prices. To complement the IRSF stabilization function, the government established the Heritage and Stabilization Fund (HSF) in 2007 to help address intergenerational equity considerations by accumulating savings from the exploitation of the country's exhaustible energy resources for future generations (see Box 3.2). The design and governance structure of the HSF is in line with international best practices. The HSF held net assets amounting to nearly US\$6.2 billion (about 20 percent of GDP) as of the end of September 2019 (see Chapter 6 of this volume for a detailed assessment of the HSF).

In terms of a plan of action, the priority for the government, as supported by the IDB, is to (1) implement the PFM reform strategy, including an integrated financial management information system, and (2) press forward with implementation of the procurement legislation enacted in 2015. These efforts, along with implementation of the HSF rules aimed at public expenditure stability, would create a strong core PFM.

If progress is made in the above-mentioned areas, Trinidad and Tobago will be in a strong position to implement further reforms to the PFM system. First, it is important to strengthen the legal framework to reinforce PFM and fiscal responsibility. Second, a framework needs to be developed to help control fiscal risks, including external shocks, natural disasters, and contingent liabilities. These steps are prerequisites to establishing numerical fiscal rules. While, as mentioned, the HSF helps maintain relative expenditure stability, Trinidad and Tobago would be well served by adding fiscal rules that bound the overall deficit and public debt (see Chapter 5).

BOX 3.2. OPERATIONAL RULES OF THE HERITAGE AND STABILIZATION FUND

To help delink government revenue from swings in world energy prices, and thus keep government spending relatively stable, energy revenue in Trinidad and Tobago is budgeted based on a formula with a long-term perspective: an 11-year moving average of crude oil and gas prices consisting of five years of historical prices, five years of price projections, and the price for the current year. The rules of the Heritage and Stabilization Fund (HSF) regarding savings (withdrawals) are triggered when actual energy revenue exceeds (falls below) budgeted energy revenue by at least 10 percent. A minimum of 60 percent of excess energy revenue is to be transferred to the HSF in any fiscal year. Conversely, when energy revenue falls short of budget projections, government may withdraw resources from the HSF according to the same formula or 25 percent of the value of the HSF, whichever is lower.

To attain these objectives, it is crucial to build the capacity to independently develop a medium-term budget framework within which the annual budget would be formulated. This framework must be used to help transform the budgeting process from an annual exercise to a multi-year planning one. It would enhance the development of effective public investment management, including the incorporation of the operating and maintenance cost of projects.

The establishment of a fiscal council could be subsequently considered. The council could also help determine long-term crude oil and natural gas prices that guide the budget and the fiscal medium-term framework. Moving from cash to accrual budgeting could be implemented once all other PFM functions work efficiently.

Annex 3.1. Methodology for the Design and Sequencing of Public Financial Management Reforms

This annex largely describes the methodology to identify the core PFM functions and map them against the PEFA scoring system (Tommasi 2013). When the core PFM functions are present in a PFM system, they ensure financial compliance.⁴⁰ Thus, the methodology helps pinpoint weaknesses in the core PFM functions and suggests priority actions for a PFM reform program. Of course, these actions and the sequencing of reforms should take into account country-specific circumstances.

The main output of PFM systems is the budget, through which public policies are financed. Financial compliance functions should be reflected in a “compliance budget” implemented in conformity with existing regulations. Financial compliance means probity and regularity in PFM (notably budget management) in high-risk management areas such as payroll, procurement, and physical assets subject to waste and embezzlement. Ensuring financial compliance requires adequate control systems, which should have the highest priority to ensure that PFM processes operate properly.

In most of the six Caribbean countries examined in this chapter, high priority needs to be given to building financial compliance functions.⁴¹ This is because it would be difficult to ensure fiscal discipline without compliance with fiscal regulations. Moreover, allocating totals according to the policy objectives will not have much meaning if there is no aggregate fiscal discipline to keep these totals under control. In fact, substantial progress towards operational efficiency can be achieved through measures aimed at meeting financial compliance, such as better implementation of input control and the elimination of waste. These measures need to be specified according to the country’s context and based on clear and transparent financial regulations. In addition, control procedures should be designed so as not to hinder the development of other PFM objectives.

Basic Control Functions

Reinforcing expenditure control requires an adequate mix between (1) controls performed by the Ministry of Finance or other central agencies (e.g., the

⁴⁰ Diamond (2013) defines the following hierarchy between deliverables of a PFM system, in order: (1) financial compliance/fiscal control, (2) stabilization and sustainability (i.e., aggregate fiscal discipline), and (3) efficiency and effectiveness in resource use.

⁴¹ It should be noted, however, that some of the countries have undertaken PFM functions that go beyond the core PFM functions, such as the establishment of sovereign wealth funds.

Prime Minister's Office in some countries) and controls performed within the spending agencies, (2) ex ante and ex post controls, (3) audits on systemic issues and inspections focused on individual transactions, and (4) external to the executive controls and internal controls. This mix depends on various factors, such as human resources capacity, the administrative and budgeting culture, and the degree of compliance with laws and regulations.

Problems may not be related to the lack of controls, but rather to misdirected controls. For instance, some areas with high financial risks may not be covered, while other areas might be covered by cumbersome and duplicated controls. Controls may need to be reinforced in some areas and simplified in others. Controls on overall spending, such as cash and commitment controls, need to be predictable to avoid conflicting with other PFM objectives. The scope of ex post control and audit procedures must consider the country context.

Centralized management procedures should be transparent and allow line ministries to verify transactions carried out under their budget. For instance, centralized payrolls and payments should be disclosed transparently to line ministers. Similarly, procurement, a significant risk area, requires a good degree of transparency.

Control of cash is essential. It requires consolidation of government bank accounts and rules and systems to minimize the handling of cash in revenue collection and expenditure payments.

The core PFM functions should include measures to develop external control and accountability, such as effective legislative oversight. External (to the executive) control, and accountability to the legislature and citizenry, are important functions of PFM because they help ensure that internal control functions properly.

Accounting for physical assets according to accrual accounting methods goes far beyond the core PFM functions. However, more expensive assets and those assets subject to waste and embezzlement need to be recorded in regularly updated asset registers. This basic requirement may consist of simple procedures such as assessing whether the cars are still running or whether the computers are still in offices.

Support Functions and Activities

Accounting and Financial Reporting

The core PFM functions should include reliable and comprehensive accounting and timely reporting that covers all government units. Accounting and reporting procedures should be properly designed to support budget

execution control, accountability, and analytical works for budget preparation. Expenditure should be accounted for at both the commitment and payment stages, and arrears should be accounted for as well. When relevant, financial reports should cover expenditures financed by external loans based on disbursements notified by the donors to the debt office, and expenditures financed by grants managed by a national authorizing officer.

In-year reports conducted at least quarterly should be available within the Ministry of Finance and the line ministries for the supervision of budget implementation. An annual financial report should be audited by the supreme audit institution and then submitted to the legislature for accountability purposes.

The Legal Framework

The legal framework should be properly designed to ensure that core PFM functions are legally defined. When reviewing the core PFM functions, it should be verified whether the legal framework is enforced in the relevant areas.

Information Technology

Computerization may facilitate PFM, but even implementing a financial management information system limited to a treasury system poses difficulties and requires several years to implement, as it requires that national capacity be developed to supervise the systems. Such a system can reinforce the effectiveness of core PFM functions, but it cannot substitute for them.

The Resulting Budget

Compliance Budget

To be effective, the compliance budget should be implemented in conformity with the existing regulations—that is, the expenditure outturns must comply with legislative authorizations, and there can be no generation of arrears. Except under special circumstances, budget revisions should be approved by the legislature before, not after, they are implemented.

Budget Credibility

The budget will be credible only if it is implemented as initially planned, supported by the PFM core functions. The PEFA framework assesses the

credibility of the budget, comparing against the original approved budget the outturns of aggregate expenditure, composition of expenditure, aggregate revenue, and stock and monitoring of expenditure payment arrears.

Improving budget credibility requires identifying the causes of weak PFM functions, such as poor budget preparation without prioritization and/or poor expenditure controls, ineffective control and accounting functions, inadequate technical capacity to forecast revenue and cost the planned activities, and poor aggregate fiscal discipline. Budget credibility may also be affected by external factors, such as the nature of the policy and political dialogue between decision-makers.

The sustainability of the budget goes beyond its credibility as defined above. In the medium term, the budget will be credible only if it is sustainable in the context of a multi-year framework (e.g., one that assesses the forward costs of investment projects and conducts a debt sustainability analysis). The Ministry of Finance should have the capacity to prepare a medium-term fiscal framework—that is, fiscal projections for at least a period of two to three years.

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Debt Management and Institutions in the Caribbean: Best Practices and Priorities for Reform

Henry Mooney, Joan Oriol Prats, and David Rosenblatt¹

This chapter focuses on institutions for public debt management in six Caribbean countries: The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago.² The aim is to define debt management institutions, review the evolving consensus with respect to sound practices for debt management, and consider how Caribbean countries have fared in terms of debt accumulation in order to identify common themes and deficits that might guide those countries in terms of crucial reforms.

The history of public debt in Caribbean countries is striking. Several countries in the region have been among the most indebted in the world (measured in terms of the public-debt-to-GDP ratio) since gaining independence beginning in the 1960s. While economic and debt crises have been common throughout Latin America and the Caribbean over the past century—particularly when compared to other regions—the frequency, depth, and duration of such episodes for Caribbean countries makes it an outlier relative to the rest of the world. This is particularly significant given the development needs of many Caribbean countries. High debt levels within a context of weak public financial management processes have held back growth, incomes, and living standards for millions of people.

There are many reasons for these outcomes. It is clear that initial conditions mattered for many of these countries, as the group includes some of the youngest nation-states in the world, and many were severely lacking in terms of financial and technical resources after gaining independence, amplifying existing vulnerabilities to economic and other shocks. In this context, Caribbean countries are small, open, and in most cases island

¹ The authors thank Jason Christie for his valuable input and research assistance.

² The six countries are the members of the Inter-American Development Bank's Caribbean Country Department.

economies, making them particularly dependent on external demand and capital flows, as well as susceptible to related shocks from abroad. Their small size and limited economies of scale have led to narrow production bases, and in some cases outsized sectors—for example, commodity exports or tourism—that further amplify vulnerabilities to swings in external demand. Similarly, their geography makes them among the most vulnerable on earth to weather-related shocks, as well as the implications of climate change. All these factors have influenced social and economic outcomes over time.

The focus of this chapter, however, is on a crucial factor linked to economic and financial outcomes for these and other countries throughout the region: institutions for debt management. While the vulnerabilities discussed above are largely outside of the government's control, the design, quality, and technical capacity of institutions linked to debt management are increasingly recognized as crucial pillars for effective macroeconomic and financial risk management. This represents a sphere where reforms and capacity-building can quickly produce dividends for economic performance and development.

Debt management institutions have been the focus of considerable research and reform efforts over the past few decades. Particularly since the launch of major multilateral debt forgiveness initiatives in the 1990s, international financial institutions, governments, and private sector organizations have taken the lead in distilling best practices for debt management from advanced economies, and in developing standards of sound practice to help emerging and developing economies reform. Debt management institutions are in many ways distinct from the typical concept of public institutions, as they necessarily span many agencies of government—for example, the executive, ministries of finance and line ministries, debt management offices, central banks, and subnational agencies—as well as banks and market participants that are crucial for funding. Similarly, sound debt management practices and institutions involve more than the agencies themselves. They also require adequate legislation, authorizations, mechanisms for information-sharing and competent decision-making, data management and analysis, and the human capital required to undertake related functions.

This chapter starts by introducing the concept of debt management institutions, first discussing related risks, and then defining the practice of debt management as distinct from other fiscal institutions relevant to fiscal and debt sustainability. Debt management institutions and practices are then broken down in detail, followed by a discussion of the emerging consensus around sound structures and practices for effective debt

management. Section 4.2 presents a detailed analysis of debt in the Caribbean, including the history of debt and related crises, as well as an original quantitative assessment of key drivers of public debt trajectories in the six countries analyzed here, with a view to identifying important common deficits that may be linked to debt management institutions, practices, and capacity. Section 4.3 presents a preliminary analysis of debt management governance structures—a key pillar of sound debt management institutions across the six Caribbean countries. The analysis utilizes novel data gathered through a survey of government officials responsible for debt management which points to considerable diversity with respect to approaches and the need for further diagnostics and reform. Finally, the chapter presents several observations and conclusions, while also identifying areas with scope for further research.

4.1. Debt Management Institutions and Practices

4.1.1. *Risks Linked to Debt Management*

The concept of public debt management is broad and encompasses several policies, practices, and institutions involved in the process of incurring and managing the liabilities of governments. The IMF (2001) defines public debt management as “...the process of establishing and executing a strategy for managing the government’s debt in order to raise the required amount of funding, achieve its risk and cost objectives, and to meet any other sovereign debt management goals the government may have set, such as developing and maintaining an efficient market for government securities.”

Public debt management also involves several related markets and transactions, private and public institutions, and levels of government (e.g., federal, state, and municipal), as well as state enterprises. For the purposes of this chapter, the focus will largely be on the national or federal levels of government and related institutions.

Before delving into common functions and international best practices for debt management and related institutional structures, it is useful to outline key concepts related to the practice. In this context, it is important to understand the kinds of risks inherent to public debt portfolios and the execution of debt management functions, which have been the most important influence in terms of institutional design. These include both risks driven by the markets in which debt managers operate (e.g., credit and financial markets, both domestic and external), as well as risks related to instruments themselves (IMF 2001).

- *Market risk:* This refers to the risks associated with changes in market prices, such as interest rates, exchange rates, commodity prices, or the cost of the government's debt servicing. For both domestic and foreign currency debt, changes in interest rates affect debt servicing costs on new borrowing when fixed-rate debt is refinanced, and on floating-rate debt when rates reset. Hence, short-duration debt (short-term or floating-rate) is usually considered to be more risky than long-term, fixed-rate debt. Debt denominated in or indexed to foreign currencies also adds volatility to debt servicing costs as measured in domestic currency, owing to exchange rate movements. Debt instruments with embedded options can also create additional market and/or rollover risks (see below).
- *Rollover risk:* This refers to the risk that debt will have to be rolled over at an unusually high cost or, in extreme cases, cannot be rolled over at all (e.g., due to a loss of market access). To the extent that rollover risk is limited to the risk that debt might have to be rolled over at higher interest rates, including changes in credit spreads, it may be considered a type of market risk. However, because the inability to roll over debt, and/or because exceptionally large increases in government funding costs can lead to or exacerbate a debt crisis and thereby cause real economic losses (in addition to the purely financial effects of higher interest rates), rollover risk is often treated separately. Managing this risk is particularly important for emerging market countries.
- *Liquidity risk:* There are two types of liquidity risk. One refers to the cost or penalty investors face in trying to exit a position when the number of transactions has markedly decreased or because of the lack of depth of a particular market. This risk is particularly relevant in cases where debt management includes the management of liquid assets or the use of derivatives contracts. The other form of liquidity risk, for a borrower, refers to a situation where the volume of liquid assets can diminish quickly in the face of unanticipated cash flow obligations and/or a possible difficulty in raising cash through borrowing in a short period of time.
- *Credit risk:* This refers to the risk of nonperformance by borrowers on loans or other financial assets or by a counterparty on financial contracts. Credit risk is particularly relevant in cases where debt management includes the management of liquid assets. It may also be relevant in the acceptance of bids in auctions of securities issued by the government as well as in relation to contingent liabilities, and in derivative contracts entered into by the debt manager.

- *Settlement risk*: This refers to the potential loss that the government, as a counterparty, could suffer as a result of failure to settle, for whatever reason other than default by another counterparty.
- *Operational risk*: This includes a range of different types of risks, including transaction errors in the various stages of executing and recording transactions; inadequacies or failures in internal controls, or in systems and services; reputation risk; legal risk; security breaches; or natural disasters that affect business continuity.

Ultimately, the main function of a properly structured set of debt management institutions and procedures is to execute the government's financing requirements at the lowest possible cost, given a certain appetite for risk. As costs and risks linked to financing tend to be countervailing forces—that is, higher-risk strategies may offer lower short-term costs—ensuring that policymakers are adequately informed of the nature of this tradeoff is a key responsibility of debt managers.

4.1.2. Debt Management versus Fiscal Institutions Linked to Debt Sustainability

In a general sense, institutions can be defined as a set of rules, enforcement procedures, and cultural norms that constrain the behavior of individuals in the interest of maximizing the wealth or utility of principals (North 1981). With respect to public policies—particularly fiscal policy—the “principals” are the citizens represented by legislatures and governments, and the “agents” are policymakers elected or appointed to act on behalf of citizens.³ Citizens tend not to share a common view on the optimal strategy for debt, so decisions regarding fiscal policies—and thus debt management—are subject to political economy problems (Alesina and Passalacqua 2015). To help mitigate these problems, countries around the world have developed and refined institutions for fiscal policymaking and execution that ensure high levels of transparency in terms of fiscal objective-setting, the identification of constraints (e.g., fiscal space given objectives), and execution.

As mentioned above, it is important to note that debt managers are not tasked with developing or setting fiscal priorities or policies themselves, though their input can and should inform policymakers regarding

³ Principal-agent problems are pervasive in the context of public policy and with respect to contracting. For a helpful discussion of the game theoretic underpinnings of related issues, see Eisenhardt (1989).

what may be prudent and/or possible. In this context, those setting expenditure priorities should take into account issues such as the evolving costs of debt servicing, the prospective availability of new funding, and emerging risks to existing debt portfolios—all information that debt managers are best placed to provide. But fiscal policy itself is the purview of other institutions of government, particularly the executive (presidents and prime ministers), the legislature, ministries of finance and other project- or expenditure-executing ministries, and their respective agencies. Therefore, debt management institutions are intimately related to fiscal policies and, as a result, to fiscal institutions more broadly. As such, debt management and fiscal institutions should be conceived as a synergic system rather than stand-alone entities. This is because even the best debt management institutions would not be able to prevent debt crises in the absence of sound fiscal institutions and vice versa.

While outside the scope of this chapter, it is worth highlighting a few key fiscal institutions that tend to be most relevant to debt management but that fall outside the perimeter of what is typically defined as a debt management institution, per se. These institutions are described below but are analyzed in detail in Chapter 5 of this volume.

Fiscal Responsibility Frameworks and Fiscal Rules

Fiscal responsibility frameworks are institutional and legal structures that help to guide fiscal policymaking over time with the aim of increasing transparency, discipline, and accountability on the part of policymakers and executing agencies (Mooney, Wright, and Grenade 2018). Many such frameworks also embed quantitative targets—or fiscal rules—for related outcomes (e.g., public wages, expenditures, and debt). These tend to be based on legal frameworks linked to budget system laws, or separate legislative constructs, like fiscal responsibility laws. Regardless of their specific modalities, these frameworks often sacrifice discretion in exchange for rules. These rules tend to work best when they embed some degree of flexibility, allowing policies and targets to adapt to emerging circumstances in order to avoid procyclical policy shocks—for example, undue tightening of fiscal policies during a crisis, and vice versa. But fiscal responsibility frameworks cannot be viewed in isolation. To work properly, they must rely on capable institutions and personnel, as well as important inputs, including those provided by sound and effective debt management institutions.

Chapter 5 of this volume discusses fiscal institutions in the Caribbean, noting that all six Caribbean countries suffer, to varying degrees, from significant institutional and capacity weaknesses. The chapter argues that

countries in the Caribbean that do not presently have fiscal responsibility frameworks could benefit from the development and implementation of fiscal rules, as has been the case for Jamaica, which implemented a successful framework in 2014.⁴ The chapter also argues that such frameworks should be adapted to country-specific circumstances based on factors including macroeconomic frameworks, economic structures (e.g., resource- or tourism-based economies), and other related factors.

Independent Fiscal Councils

The number of countries with fiscal councils has increased considerably over the past 70 years, with many having emerged over the last decade since the global financial crisis in 2008. While early adopters were advanced economies with strong administrative and technical capacity, recent years have seen several developing economies join this rapidly expanding group. While the mandate, structure, and composition of fiscal councils can vary widely across jurisdictions, they are generally understood to be independent institutions designed to achieve certain objectives, including (1) strengthening commitments to sustainable policies and finances, including via public assessments of fiscal plans and performance; (2) evaluating or providing macroeconomic and budgetary forecasts; and (3) involving independent stakeholders in the policy development and review process (Mooney, Wright, and Grenade 2018). Put simply, fiscal councils are entities with some degree of independence from agencies normally charged with budgetary functions—including with respect to planning, forecasting revenues and/or expenditures, and budget execution—and that inform the debate on the formulation and execution of public financial policies. Chapter 5 of this volume also discusses international experiences with fiscal councils along with the design features that are more relevant for Caribbean countries.

Overall, the key implications for debt management institutions is that their design and effectiveness are contingent on the extent to which these fiscal institutions are developed. Indeed, in the absence of sound fiscal institutions, debt management institutions might be relatively underpowered.

⁴ Jamaica's fiscal responsibility framework has helped to guide fiscal policy towards successful debt reduction. The framework embeds quantitative rules for debt reduction, public wages, and year-over-year fiscal outcomes that should be consistent with these objectives. Similarly, the flexibility embedded in this framework has helped the government adjust to the COVID-19 crisis by delaying target dates for medium-term debt reduction by as long as might be necessary to accommodate the fiscal implications of the pandemic and related stimulus. See IDB (2020) for details.

4.1.3. *Why Is Public Debt Management Defined as an “Institution”?*

Debt management can best be described as a set of procedures and units within government tasked with developing and executing a strategy to manage the state’s portfolio of liabilities and new borrowing required for funding. They also help to achieving the government’s risk and cost objectives, and any other objectives, including developing and maintaining an efficient market for government securities (IMF 2016). A robust debt management framework is a key component of governance directed at avoiding excessive risk accumulation in the sovereign balance sheet, while supporting growth and stability. As such, debt management fully falls under the scope of standard definitions of institutions since the procedures and policies within it define the “rules of the game” for how governments handle public debt.

Key components of effective debt management institutions include sound legal underpinnings for the incurrence of new public liabilities (e.g., transparent delegation of authority for new borrowing and the issuance of guarantees to specific units within government); a centralized and transparent registry of sovereign debt instruments and obligations; adequate debt recording and reporting systems; sufficient human resources assigned to key debt management functions; and adequate technical capacity to undertake the analyses required to support sound debt management (e.g., analyzing debt sustainability and portfolio costs/risks, and assessing financial and legal risks from prospective liabilities [debt or contingent liabilities]).

As noted by the IMF (2016, p. 5): “There is increasing convergence on what are considered prudent public debt management practices that can also reduce vulnerability to contagion and financial shocks.” Unlike other public policies, debt management functions are not linked to a single or narrow group of institutions within government. Much of the rest of this volume focuses on institutions responsible for formulating and executing key economic policies—for example, ministries of finance that execute fiscal policy, central banks that execute monetary policy, and regulators that formulate and/or are responsible for enforcing regulations.

In the case of debt management, the practices are necessarily distributed across a host of agencies, including offices of heads of government, ministries of finance, and central banks. At the same time, they involve numerous markets and market participants, such as domestic and external financial markets, bilateral governments, and official institutions. In some countries, debt management functions tend to be concentrated in what is generally referred to as a debt management agency or office, which

is often housed within a central bank or ministry of finance, or less frequently, established as a separate agency. Even in countries where there is not such a centralized debt management agency or unit, debt management practices, procedures, and legislation are generally referred to as a country's institutional structure for debt management. Sound debt management structures help governments reduce their exposure to the risks outlined above. These agencies also help to ensure transparency in terms of objectives, benchmarks for both costs and risks, and decision-making.

4.1.4. Sound Structures and Practices for Effective Debt Management

Over time, there have been many attempts by academics, practitioners, and market participants to define and delineate international sound practices for debt management. As might be expected, debt management agencies in larger and more advanced economies tend to be viewed as those with the best-developed institutions and approaches. This is partially because these countries tend to have large domestic capital markets, strong and continuous access to international capital markets, and high levels of institutional capacity. Similarly, these economies tend to have relatively large financing requirements, meaning that their debt managers will transact often and on a very large scale, providing them with considerable experience over time. Many have also been at it for a long time, which has allowed them to develop their approaches in line with market innovations.

An exhaustive discussion of approaches to debt management pursued by different countries is beyond the scope of this chapter. However, there are a few well-regarded sets of principles and recommendations that have been developed by international agencies in order to distill best practices from advanced and other market economies and provide a roadmap for emerging, developing, and lower-capacity countries to follow when attempting to strengthen debt management institutions. Perhaps the best known and most widely used are the joint IMF and World Bank Guidelines for Public Debt Management (IMF 2016), which are also the basis for the World Bank's Debt Management Performance Assessment (DeMPA) Methodology (World Bank 2015). The guidelines and the DeMPA were developed to set out key principles and benchmarks to support institutional and capacity development for countries in need.

In this context, the DeMPA focuses on five key institutional pillars for debt management: (1) governance and strategy development, (2) coordination with macroeconomic policies, (3) borrowing and related financing activities, (4) cash flow forecasting and cash balance management, and

Table 4.1. Key Pillars of Sound Debt Management Institutions and Practices

1. Governance and Strategy Development	2. Macroeconomic Policy Coordination	3. Borrowing and Related Financing Activities	4. Cash Flow Forecasting and Cash Balance Management	5. Debt Recording and Operational Risk Management
<ul style="list-style-type: none"> • Managerial Structure 	<ul style="list-style-type: none"> • Coordination with Fiscal Policy 	<ul style="list-style-type: none"> • Domestic Borrowing 	<ul style="list-style-type: none"> • Cash Flow Forecasting and Cash Balance Management 	<ul style="list-style-type: none"> • Debt Administration and Data Security
<ul style="list-style-type: none"> • Legal Framework 	<ul style="list-style-type: none"> • Coordination with Monetary Policy 	<ul style="list-style-type: none"> • External Borrowing 		<ul style="list-style-type: none"> • Separation of Duties, Staff Capacity, and Business Continuity
<ul style="list-style-type: none"> • Debt Management Strategy 		<ul style="list-style-type: none"> • Loan Guarantees, On-Lending, and Derivatives 		<ul style="list-style-type: none"> • Debt and Debt-Related Records
<ul style="list-style-type: none"> • Debt Reporting and Evaluation 				
<ul style="list-style-type: none"> • Audit Practices 				

Source: Based on World Bank (2015).

(5) debt recording and operational risk management. Each of these pillars of sound debt management institutional practices also involves a number of sub-pillars considered crucial to ensure that public debt mandates and portfolios are designed, executed, and managed in a sustainable and cost-efficient way that minimizes fiscal and economic risks to governments. The five key institutional pillars for sound debt management are outlined in greater detail in Table 4.1.

While this assessment methodology has not been applied to all of the six Caribbean nations analyzed for this chapter,⁵ many of the issues related to sound practices and policies that it highlights are clear concerns for these countries. For example, as highlighted below, large devaluations have had devastating impacts on several countries' debt portfolios in the recent past, suggesting deficiencies with respect to governance and strategy development, as well as in terms of guidelines and risk assessments informing the selection of borrowing instruments. Similarly, shocks to debt from unanticipated debt-creating flows (e.g., contingent liabilities)

⁵ Guyana undertook such an assessment in the past when it was classified as a low-income economy, which allowed it to qualify for technical assistance via the trust fund that financed the DeMPA program at the time. Guyana's report is not publicly available.

highlighted by the debt decompositions below point to deficiencies with respect to the practices and legislation linked to the issuance of, for example, loan guarantees and/or on-lending operations. As discussed in the next section, these and many other concerns suggest that Caribbean countries could benefit from detailed assessments of debt management institutions, practices, and technical expertise, ideally in the context of benchmarking aimed at identifying vulnerabilities vis-à-vis international best practices, and to inform capacity development and reform plans.

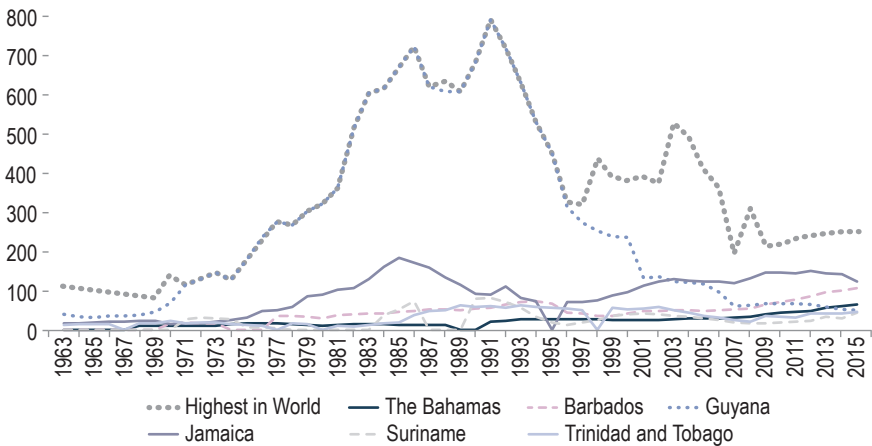
4.2. Debt in the Caribbean

4.2.1. History of Debt Accumulation and Crises in Caribbean Countries

Public debt and its implications for economic performance arguably have been among the most pervasive factors influencing development for many countries in the Caribbean region over the past century. In this context, the history of public debt in Caribbean countries is striking. For example, since the first of the six Caribbean countries analyzed here gained independence in 1963, at least one of them at any one time has been among the most indebted countries in the world—if not the most indebted—as measured by the ratio of public debt to gross domestic product (Figure 4.1).

Guyana was the most indebted country in the world as measured by the ratio of nominal public debt to GDP from 1970 through the mid-1990s.

Figure 4.1. Public Debt Levels, Caribbean versus the World (percent of GDP)



Sources: International Monetary Fund, Global Debt Database; and authors' calculations.

Note: Highest in world represents the highest of 197 countries for which data were available continuously starting in 1963.

More recently, Jamaica's public-debt-to-GDP ratio of 149 percent in 2012/2013 (IMF 2014), and Barbados' ratio of 158 percent in 2017 (IMF 2019), placed both of these countries in the top three most-indebted economies in the world just prior to their entry into prolonged and challenging economic and fiscal adjustment programs. As discussed later in this chapter, these high debt levels and the associated "debt overhang" (see definition in Box 4.1) have acted as a brake on growth, stifled private

BOX 4.1. WHAT DOES ECONOMICS TELL US ABOUT DEVELOPING COUNTRY BORROWING?

Governments, like businesses, often borrow to finance lumpy investment projects, thus allowing them to smooth out the payment for those investments over a longer timeframe. Tying borrowing to public investment leads to consideration of the "golden rule": that current expenditures should be financed with current revenues, and borrowing should only be undertaken to finance capital investment (Kopits and Symansky 1998). That said, during a strong recession like the one being experienced by most countries in the world in 2020, borrowing to replace lost revenues allows governments to engage in countercyclical fiscal policy to support the economy and limit the social impact of the COVID-19 crisis (see Budnevich 2003 for a survey). So long as countercyclical policy is short-term in nature and embedded in a sustainable medium-term fiscal framework and/or fiscal rule, future debt distress can be avoided (see Chapter 5 of this volume).

Basic economics tell us that it is worth borrowing to finance investment projects if the rate of return on the investment is greater than the cost of borrowing (the interest rate on the loan). When this is the case, the investment project can essentially pay for itself over time.

There are two rationales for developing country governments to borrow abroad: first, if domestic financial markets are underdeveloped, and second, if foreign currency is required as a key component of public investment due to the need to import goods that are not produced domestically.^a That said, since the debt crises of the 1980s, the wisdom of borrowing in foreign currency has come into question. A fundamental problem, commonly termed "original sin," is that developing countries cannot borrow in domestic currency from foreign lenders, and are thus forced to borrow in foreign currency (Eichengreen and Hausmann 1999; Eichengreen, Hausmann, and Panizza 2007). Borrowing in foreign currency can also lead to a "fear of floating" the exchange rate (Calvo and Reinhart 2002), since devaluations provoke a larger debt burden in domestic currency terms. This fear of floating can lead to real exchange rate overvaluations that can cause short-term speculative crises or longer-term competitiveness problems that can hamper economic growth. The effects of devaluations can also be amplified if there are currency mismatches in the assets and liabilities of the government, firms, and households.

(continued on next page)

BOX 4.1. WHAT DOES ECONOMICS TELL US ABOUT DEVELOPING COUNTRY BORROWING? *(continued)*

Finally, high overall levels of sovereign indebtedness can hamper long-term economic growth, a phenomenon sometimes referred to as “debt overhang.” Debt burdens can become so large that solvency concerns begin to emerge. These concerns then hamper the ability of a government (or firm) to borrow, and also lower creditors’ willingness to lend. The result is a decline in needed investment. Debt management itself can play a role. For example, borrowing short-term can exacerbate debt overhang (Diamond and He 2014).

In brief, while the rationales for developing country borrowing are clear, there are also risks due to imperfections in international capital markets combined with institutional weaknesses in developing countries.

^a On the latter, see the literature on the so-called “two-gap model” (Chenery and Strout 1966).

sector investment, created macroeconomic and financial instability, and crowded out public investment needed to overcome infrastructure and social deficits critical for poverty reduction and development.

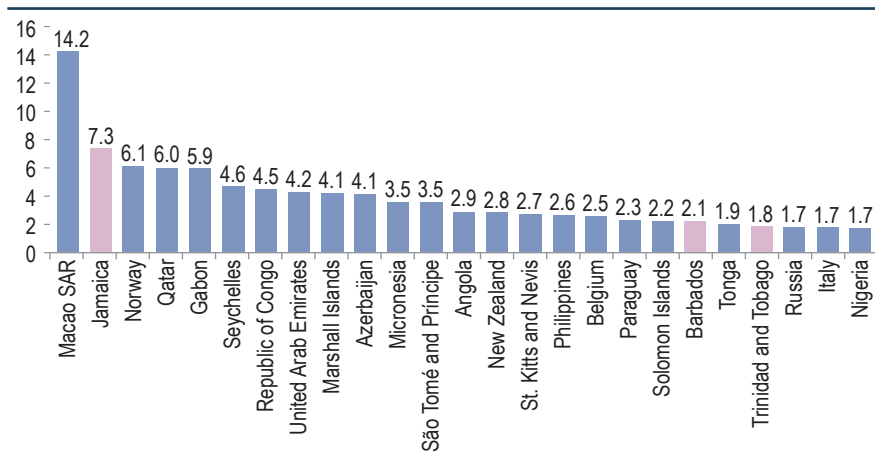
Given this history, the Caribbean countries have undertaken numerous debt restructurings (though some have been characterized as voluntary in nature),⁶ and their governments have been forced to initiate some of the most severe fiscal adjustments ever contemplated in the context of emergency reform programs aimed at restoring debt sustainability and macroeconomic stability. For example, Jamaica recorded the highest average primary fiscal surplus in the world for a sovereign nation from 1990 to 2018 (7.3 percent of GDP⁷), while other countries in the region, including Barbados and Trinidad and Tobago, also ranked near the top of the list globally on this measure over the same period (Figure 4.2).

Standard economy theory tells us that developing countries—where capital is scarce and labor is abundant—should borrow resources from abroad to support faster development. In this context, developing countries also tend to suffer from large and persistent public and social infrastructure deficits that act as brakes on private sector investment and productivity growth. Many of these deficits must be addressed with

⁶ For example, Guyana benefited from debt relief on public debt via multilateral initiatives, including the Heavily Indebted Poor Countries and Multilateral Debt Relief Initiatives, while Jamaica and Barbados have both undertaken concessional private debt restructurings over the past decade.

⁷ The only economy with a higher average primary fiscal surplus was Macao Special Administrative Region of China, which is not an independent sovereign nation.

Figure 4.2. General Government Primary Balances: Comparison of the Top 25 Countries, Average over 1990–2018 (percent of GDP)



Sources: World Bank Development Indicators database and authors' calculations.

Note: Highest 25 average primary surpluses out of 194 countries for which data were available.

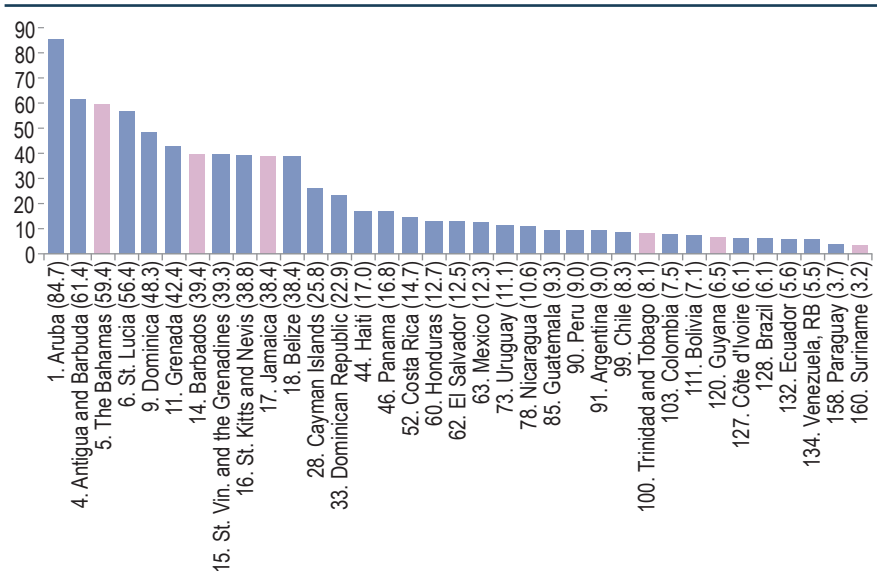
prudent public investment and expenditure, generally requiring governments to borrow both domestically and from abroad. However, borrowing on a large scale, particularly from abroad and in foreign currencies, can pose both risks to financial sustainability and complex policy issues that have created challenges for developing country governments (Box 4.1).

So, contrary to what one might expect for countries with significant economic and social development needs, the large and persistent primary surpluses documented above imply that many countries in the Caribbean may not—at least in recent times—have invested enough, largely because of the burden of fiscal adjustment driven by unsustainable debt burdens. This of course begs the question: Why have countries in the Caribbean been so persistently indebted and prone to crisis?

Caribbean country episodes of debt accumulation, crises, and default have many antecedents. Drivers have certainly included poorly conceived or executed macroeconomic policies, as well as vulnerabilities driven by the fact that these countries tend to be small open economies, which implies considerable vulnerability to exogenous shocks. These can take the form of economic shocks (e.g., demand shocks from advanced trading partners), shocks to key industries, including commodities and tourism, and susceptibility to natural disasters (see Annex 4.1 for information on the economic impact of natural disasters across the region).

Similarly, countries in the region tend to have narrow production bases, leaving them highly dependent on individual sectors for export earnings

Figure 4.3. Tourism Dependency Index for 35 Latin America and the Caribbean Countries, 2018 (ranked versus all 166 other countries for which the index was calculated)



Source: Mooney and Zegarra (2020).

Note: The Tourism Dependency Index (TDI) is calculated using five-year averages (2014–2018) for the total contribution of tourism to total export receipts, GDP, and employment for each country. The range is from 0 to 100, with 100 representing total dependence on the sector. The digit preceding the country name represents its rank out of 166 countries around the world for which data were available.

and foreign exchange, economic output, fiscal revenues, and employment. In this context, Caribbean countries—particularly the six Caribbean countries analyzed here—are among the most dependent in the world on tourism (Figure 4.3; Annex 4.2). This vulnerability has been put in stark relief as a consequence of the COVID-19 crisis.⁸

External shocks and other commonly understood policy deficiencies—that is, imprudent fiscal policies—are likely to have been major contributing factors to persistent debt accumulation and crises for countries in the region. However, it is possible that other issues—particularly poor institutions, inadequate legislation, and/or limited technical capacity—may also have played a significant role.

In this context, the next section attempts to identify the main drivers of debt accumulation and related crises for the six countries that are the focus of this chapter. The objective is not to undertake a detailed

⁸ See Mooney and Zegarra (2020) for an expanded analysis.

technical assessment of specific shocks or episodes, but rather to determine whether there are any identifiable similarities across the Caribbean countries that may have contributed to their strikingly poor performance in terms of public debt. In particular, can this poor performance be linked to deficits with respect to debt management institutions?

4.2.2. *Sovereign Debt: The Inevitable Arithmetic*

While the economics and arithmetic of public debt dynamics are rather straightforward, identifying the specific policies or other issues that have driven debt accumulation or, conversely, successful debt reduction, requires an overview of related concepts. Analysis of debt dynamics is also critical for debt management institutions to understand and manage risks as part of their core mandate.

Debt sustainability can be viewed from two perspectives—external sustainability and the sustainability of public debt. In this context, the most commonly cited indicator of solvency—the public-debt-to-GDP ratio—is quite useful.⁹ While many other indicators are also important to understanding and assessing both liquidity and solvency (e.g., the ratio of debt service to revenues or export earnings), the ratio of total debt to economic output has the advantage of comparing two important concepts that are easily measurable and that reflect variables that tend to move slowly over time.

Any analysis of debt accumulation or sustainability must begin with a review of contributing factors. In this context, it is critical to decompose debt dynamics into their constituent components, which include the following:

- *Financing requirements:* Regardless of the existing stock of debt, debt accumulation or de-accumulation is largely driven by the financing requirements, which is a function of external deficits or public sector deficits.
- *Cost of funding:* Debt dynamics are influenced by the cost of servicing existing liabilities, as well as the cost of new borrowing required to finance deficits.
- *Source of funding:* Debt dynamics will be influenced by the sources of financing and whether this requires additional borrowing (credit), or if the borrower can access alternative funds that

⁹ Also commonly understood to mean public and publicly guaranteed debt.

would not add to the debt stock (e.g., using deposits or proceeds of asset sales to finance deficits or debt repayment, or using grants).

- *Currency composition:* Debt dynamics will be influenced by changes in the value of existing liabilities, which relate to the currency composition of debt. If the local exchange rate depreciates versus currencies in which liabilities are denominated, then the burden of debt will go up (and vice versa).
- *Denominator:* The evolution of the denominator is also important to the debt-to-GDP ratio—that is, when growth accelerates, *ceteris paribus*, the ratio should fall.
- *All other factors and anomalies:* Both external and public debt decompositions incorporate a variable that captures the influence of residuals—that is, all other changes (*ex post*) that were not reflected in the other variables (Box 4.2).

BOX 4.2. DRIVERS OF SOVEREIGN DEBT DYNAMICS

The variables of debt dynamics as listed in Table 4.2.1 can be further defined as follows:

- *Fiscal balance and primary budget balance:* The overall fiscal balance is, in simple terms, equal to the difference between a government's revenues (all sources) and its expenses, including the repayment of debts owed to both domestic and external agents, over a given period (e.g., calendar or fiscal year). The primary budget balance is derived from the overall balance, but excludes net interest payments on general government liabilities (i.e., interest payments minus interest receipts).
- *Real interest rate on public debt:* This refers to the rate of interest (annualized) charged on all interest-bearing instruments in the debt portfolio (both domestic and external debt).
- *Real GDP growth:* This is the annualized rate of growth of gross domestic product, adjusted for the local rate of inflation.
- *Real exchange rate:* The real exchange rate measures the price of foreign goods relative to the price of domestic goods. Mathematically, the real exchange rate is the ratio of a foreign price level and the domestic price level, multiplied by the nominal exchange rate.
- *Other debt-creating flows:* Other factors beyond those listed above can also impact the stock of debt, including other debt augmenting or reducing flows, such as the crystallization of contingent liabilities (e.g., the calling of guarantees issued to public enterprises), or asset sales that can be used to reduce debt (e.g., the privatization of public assets).

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BOX 4.2. DRIVERS OF SOVEREIGN DEBT DYNAMICS *(continued)*

- *Public residuals*: Public residuals refer to any changes in the stock of public debt not explained by all other input components—for example, changes in the valuation of assets held within the debt portfolio, etc.

Table 4.2.1. External Debt and Public Debt Dynamics

External Debt Dynamics	Public Debt Dynamics
• Current account deficit	• Primary budget deficit
• Net foreign direct investment	• Real interest rate on debt
• Nominal interest rate	• Real GDP growth
• Real GDP growth	• Real exchange rate
• Price and exchange rate	• Other debt-creating flows ^b
• Exceptional financing	• Public residuals ^c
• External residuals ^a	

^a External residuals include exceptional financing (i.e., changes in arrears and debt relief), changes in gross foreign assets, errors and omissions, and valuation adjustments.

^b Other debt-creating (or debt-reducing) flows include privatization receipts, recognition of contingent liabilities, debt relief, etc.

^c Public residuals refer to any changes in the stock of public debt not explained by all other input components—for example, changes in the valuation of assets held within the debt portfolio, etc.

Source: Mooney and de Soyres (2017).

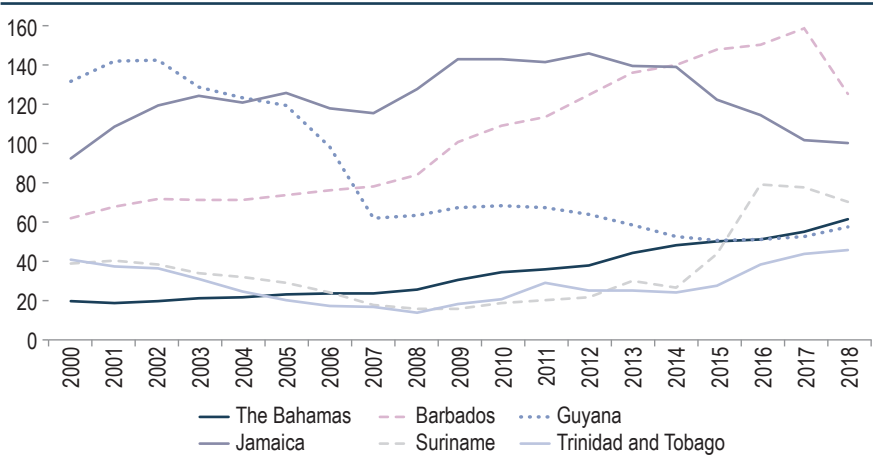
Note: For the decompositions presented subsequently in the chapter, other debt creating flows and public residuals are calculated together as a single variable, owing to data availability.

Therefore, based on the analytical framework discussed above, the next section undertakes public debt decompositions of the six Caribbean countries that are the subject of this chapter in order to determine (1) what has driven debt accumulation and crises and (2) whether there are any similarities across the countries in terms of their experiences. The focus is on several analytical horizons for which comparable cross-country data were available—particularly for the periods of 2000–2010 and 2010–2018. Detailed assessment of earlier periods was hampered by data limitations.

4.2.3. What Drove Debt Accumulation and Crises in the Caribbean? Decompositions for 2000–2018

As shown in Figure 4.4, over the past two decades, Caribbean economies have had divergent experiences with respect to the evolution of public debt. Some countries, particularly Guyana—once the world’s most indebted economy for two straight decades—have seen tremendous and sustained reductions in public debt levels, driven by, inter alia, debt relief initiatives such as the Heavily Indebted Poor Countries (HIPC) Initiative and Multilateral

Figure 4.4. The Evolution of Public Debt in Caribbean Countries, 2000–2018 (percent of GDP)



Source: Authors' calculations based on data from the World Bank's World Development Indicators and International Monetary Fund databases.

Debt Relief Initiative, as well as by policy reforms.¹⁰ Others have seen changes in debt trajectories over the period, as is the case of Jamaica, where debt increased steadily from 2000 through 2013, followed by rapid consolidation. Barbados saw debt levels rise more slowly towards the middle of the period, with a pronounced acceleration of debt accumulation around the time of the global financial crisis and thereafter, until an IMF program was put in place. Suriname has also seen debt rise quickly in recent years.

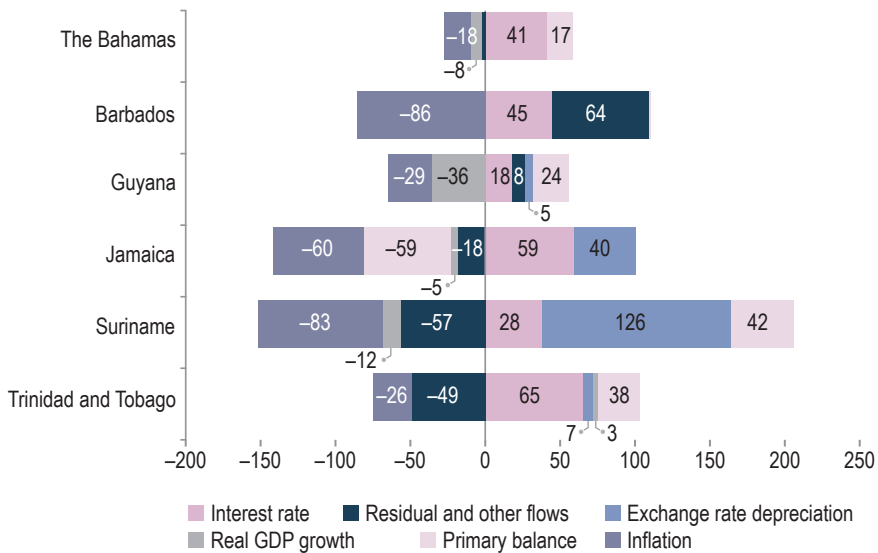
Applying multivariate debt decomposition techniques to the group of Caribbean countries over the 2000–2018 period allows for quantification of the cumulative contribution of each individual driver of overall debt dynamics (Figure 4.5). Several results of this exercise stand out.

First, as one would expect, inflation has had a net negative impact on debt levels across the countries (i.e., inflation reduced debt, as it erodes the nominal value of the stock of domestic debt over time). Second, the overall interest rate on debt denominated in public domestic currency and foreign currency—that is, the cost of servicing public debt—has been among the largest drivers of accumulation. Third, for some countries with floating exchange rates (not including The Bahamas and Barbados), exchange rate depreciation has, over time, caused a large increase in the value of outstanding debt. This was particularly the case for Suriname and Jamaica.

¹⁰ Debt relief under the Enhanced HIPC initiative was estimated at US\$387 million based on end-2002 data and parameters (IMF 2003).

Figure 4.5. Public Debt Decomposition, 2010–2018 (percent)

	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
Interest rate	41.2	44.6	18.0	59.0	38.0	64.8
Residual and other flows	-2.2	64.2	8.5	-18.5	-56.7	-49.3
Exchange rate depreciation	n.a.	n.a.	4.9	40.4	125.7	7.1
Real GDP growth	-7.8	0.8	-35.7	-4.7	-11.6	2.7
Primary fiscal balance	17.2	0.7	23.8	-58.5	41.6	27.8
Inflation	-17.6	-85.7	-29.5	-60.3	-83.0	-25.9
Change in debt-to-GDP ratio	30.9	24.5	-9.9	-42.5	54.0	27.2



Source: Authors' calculations based on International Monetary Fund and World Bank data.

Fourth, fiscal deficits were also a major contributor to debt accumulation for many countries in aggregate, but not in every case. For example, cumulatively, Barbados saw a large debt accumulation over the period reviewed, but this did not coincide with a large cumulative fiscal deficit. Similarly, Jamaica saw a large net benefit in terms of debt reduction over the period driven by the fiscal stance. In this context, a decomposition spanning 20 years may be too long a period to identify any specific drivers of accumulation or de-accumulation, particularly as this horizon includes both periods of stability with respect to debt ratios, as well as debt accumulation and de-accumulation phases.

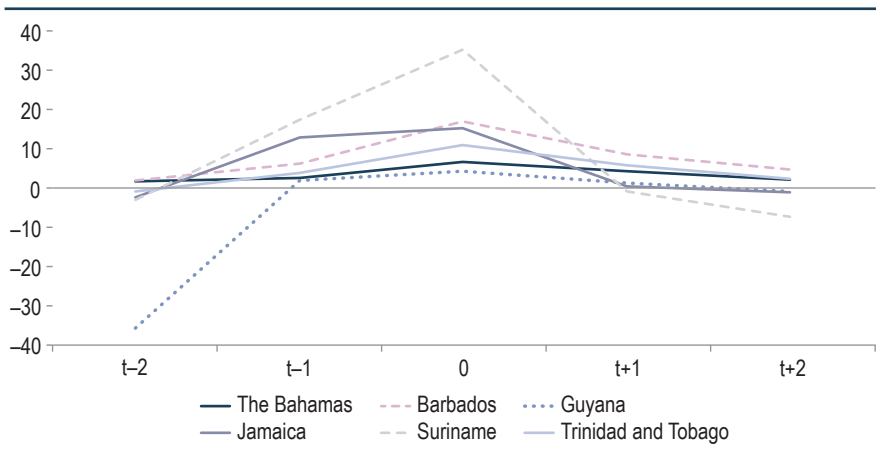
4.2.4. Decomposition of Rapid Debt Accumulation Periods between 2000 and 2018

To overcome potential confounding factors embedded across relatively longer periods of time, one can attempt to isolate comparable periods of accumulation and de-accumulation. In this context, five-year periods leading up to and including peak debt accumulation years within the 2000–2018 period are used (Figure 4.6). The decompositions of factors for countries during the period are then compared in order to assess any perceivable trends or similarities.

Detailed decompositions of these accumulation periods reveal some consistencies across countries, but also some differences. For example, the largest single year increase in the public-debt-to-GDP ratio across the six countries ranged from between 4 percentage points of GDP (Guyana) and 35 percentage points of GDP (Suriname) (Figure 4.6). These accumulation periods also varied in terms of the dates when they were observed, though, perhaps not surprisingly, countries highly dependent on the same sectors seem to have suffered synchronized deteriorations.

In particular, the largest single year increases took place in 2009 for Barbados and Jamaica. Both of these countries are highly dependent on tourism. The global financial crisis represented the largest synchronized shock to external demand—particularly for tourism—prior to the

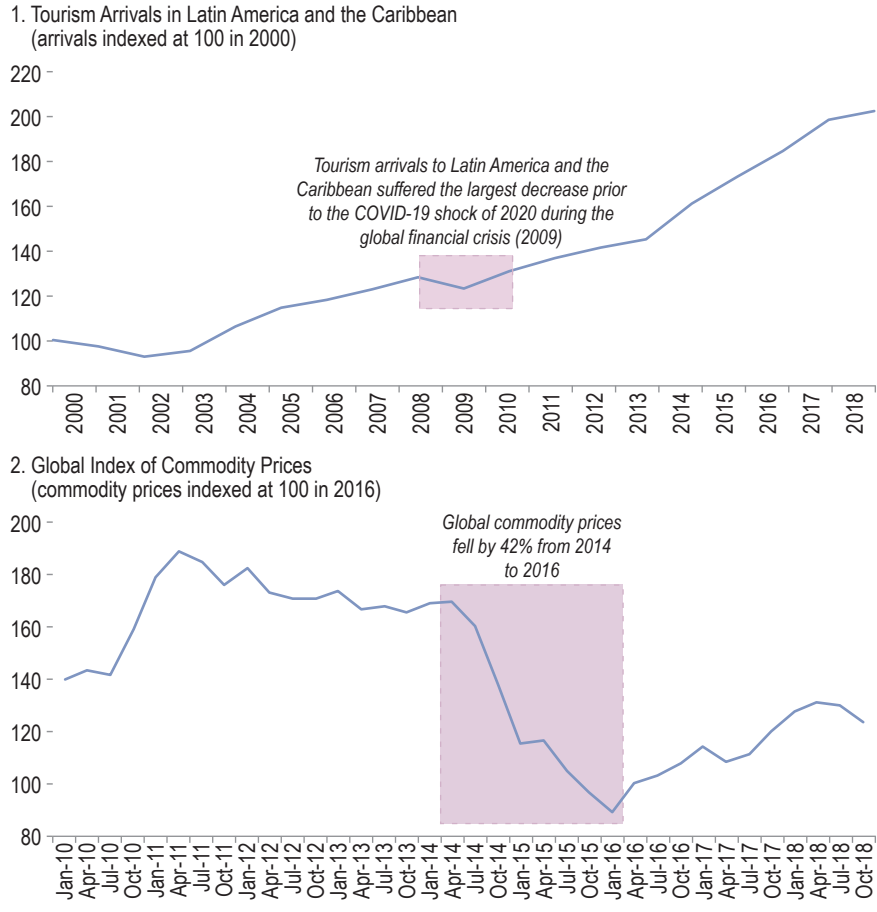
Figure 4.6. Comparison of Debt Accumulation Episodes: Change in Public-Debt-to-GDP Ratio (year-over-year, in percent)



Source: Authors' calculations based on International Monetary Fund and World Bank data.

Note: Zero year (t=0) is the year in the 2000–2018 period when the increase in public debt was greatest, as measured in percentage points of the public-debt-to-GDP ratio.

Figure 4.7. External Demand Shocks and Debt Accumulation in Caribbean Countries



Sources: Panel 1: Mooney and Zegarra (2020); Panel 2: Authors’ calculations based on data from the Federal Reserve Bank of St. Louis databases (<https://fred.stlouisfed.org/series/PALLFNINDEXQ>).

Note: The index in panel 2 (2016 = 100) is based on quarterly data that is not seasonally adjusted.

COVID-19 crisis (Figure 4.7, panel 1).¹¹ Alternatively, Suriname and Trinidad and Tobago both saw their largest shocks to public debt within the 2000–2018 period from 2014 to 2016, which coincides with a leveling off and reversal of the global commodities price boom of the preceding decade. To put this in perspective, the Global Index of Commodity Prices fell by 42 percent between January 2014 and January 2016 (Figure 4.7, panel 2).

¹¹ See Mooney and Zegarra (2020) for a more detailed discussion of historical shocks to tourism and the implications this has had for economies in the region and across the world.

In terms of specific drivers, depreciations were among the largest contributing factors to these debt increases for countries with floating or managed exchange rates (Table 4.2). For Suriname, the large depreciation that took place in 2016 led to a single-year increase in the debt burden of about 82 percentage points of GDP. For Jamaica, a similarly large adjustment of the exchange rate led to a 21 percentage point of GDP increase in the debt burden in 2009. Both these cases point to severe deficits with respect to both macroeconomic management and debt management as they relate to the foreign currency exposure of public debt portfolios and liabilities.

Table 4.2. Detailed Debt Decompositions: Peak Accumulation Periods (period)

The Bahamas	2011	2012	2013	Sum
	t-2	t-1	t=0	
Interest rate	5.9	4.8	4.2	14.9
Other debt-creating flows	-6.3	1.4	-2.0	-6.9
Real GDP growth	-0.6	-3.1	0.4	-3.3
Primary balance	1.6	2.4	3.3	7.3
Inflation	0.9	-3.3	0.5	-2.0
Change in debt-to-GDP ratio	1.4	2.3	6.3	10.0
Debt-to-GDP ratio	35.3	37.6	43.9	
Barbados	2007	2008	2009	Sum
	t-2	t-1	t=0	
Interest rate	6.1	6.4	6.1	18.7
Other debt-creating flows	5.4	9.5	12.0	27.0
Real GDP growth	-1.9	-0.9	4.9	2.1
Primary balance	1.2	0.5	2.6	4.3
Inflation	-9.3	-9.6	-8.9	-27.8
Change in debt-to-GDP ratio	1.6	6.0	16.6	24.2
Debt-to-GDP ratio	77.4	83.4	100.0	
Guyana	2007	2008	2009	Sum
	t-2	t-1	t=0	
Interest rate	2.9	2.7	2.4	7.9
Other debt-creating flows	-22.6	7.1	5.2	-10.3
Exchange rate depreciation	0.8	1.1	-0.1	1.8
Real GDP growth	-7.0	-2.0	-3.3	-12.3
Primary balance	2.5	1.9	1.9	6.4
Inflation	-12.7	-9.0	-2.1	-23.9
Change in debt-to-GDP ratio	-36.1	1.7	4.0	-38.3
Debt-to-GDP ratio	61.2	62.9	66.9	

(continued on next page)

Table 4.2. Detailed Debt Decompositions: Peak Accumulation Periods (period)
(continued)

Jamaica	2007	2008	2009	Sum
	t-2	t-1	t=0	
Interest rate	10.2	9.8	12.2	32.2
Other debt-creating flows	3.4	14.9	-5.0	13.2
Exchange rate depreciation	4.7	5.6	21.2	31.5
Real GDP growth	-1.4	0.8	3.4	2.8
Primary balance	-8.1	-5.0	-6.3	-19.5
Inflation	-11.3	-13.6	-10.6	-35.4
Change in debt-to-GDP ratio	-2.6	12.5	14.9	-7.4
Debt-to-GDP ratio	114.5	127.0	141.9	
Suriname	2014	2015	2016	Sum
	t-2	t-1	t=0	
Interest rate	3.4	3.5	2.4	9.2
Other debt-creating flows	-12.5	-3.4	-33.7	-49.6
Exchange rate depreciation	0.0	3.5	82.3	85.8
Real GDP growth	-0.3	3.4	5.6	8.7
Primary balance	7.7	7.9	6.2	21.9
Inflation	-1.6	2.1	-27.7	-27.2
Change in debt-to-GDP ratio	-3.3	17.1	35.1	39.7
Debt-to-GDP ratio	26.3	43.4	78.5	
Trinidad and Tobago	2014	2015	2016	Sum
	t-2	t-1	t=0	
Interest rate	7.5	7.7	5.4	20.6
Other debt-creating flows	-10.5	-18.4	-19.6	-48.5
Exchange rate depreciation	-0.5	-0.5	4.5	3.5
Real GDP growth	1.3	-1.9	6.5	5.8
Primary balance	2.8	5.9	10.5	19.2
Inflation	-1.8	10.7	3.3	12.3
Change in debt-to-GDP ratio	-1.2	3.6	10.6	-7.6
Debt-to-GDP ratio	23.6	27.2	37.8	

Source: Authors' calculations.

Similarly, both Jamaica and Barbados saw increases in debt during these peak debt accumulation periods driven by large spikes in the “other debt-creating flows” category equal to over 10 percentage points of GDP in one or more years. As defined above, these other flows are comprised of factors, generally unanticipated, that affect debt outcomes, including the crystallization of contingent liabilities (e.g., the calling of guarantees issued to public enterprises, the funding of state enterprise deficits, banking

system bailouts, and central bank recapitalizations). These large and rapid spikes in other flows tend to point to deficits in terms of economic and debt management practices. The relationship between debt management institutions and fiscal institutions is also clear. For example, if public enterprise deficits are not accurately accounted for in the fiscal accounts, then contingent liabilities can be hidden and may continue to accumulate until a crisis occurs.

What is also striking is that at least in the context of these peak shock periods, fiscal slippages—reflected in the contribution of primary balances to debt accumulation—were not typically the most significant driver of debt accumulation. In fact, in the cases of Jamaica and Guyana, these spikes in debt accumulation occurred in years when the primary fiscal balance was in surplus, and thus actually reduced debt. In countries where appreciable fiscal deficits were evident during these periods (Suriname and Trinidad and Tobago), this was a less significant factor than other shocks such as an exchange rate depreciation (Suriname) or high and rising financing costs (Trinidad and Tobago).

While it is true that this exercise and its focus on the 2000–2018 period does not capture previous periods of debt accumulation, what it suggests is that debt crises in the Caribbean are not exclusively the result of the usual suspect—significant fiscal slippages. An important caveat is that fiscal imprudence in years prior to the period in focus contributed to poor economic performance, as well as macroeconomic and financial instability and large initial debt burdens, in some of the countries reviewed. However, it is impossible to fully disentangle the lingering influence of past fiscal imprudence from factors adversely influencing debt dynamics in later years. Other factors have also been important drivers of debt accumulation and crises.

In summary, while an exhaustive analysis of economic policies and shocks over the past two decades for the Caribbean is well beyond the scope of this analysis, what is abundantly clear is that many countries within this group have displayed inconsistent and poor performance with respect to public debt and finances during the period. The fact that at least one of the six countries has ranked at any one time as among the most indebted economies in the world for most of the period since gaining independence highlights the susceptibility of these countries to external shocks, while also suggesting the presence of deep-seated structural, institutional, and/or capacity deficits.

The finding that factors other than the usual suspects (i.e., fiscal slippages) have also been at the root of some of the fastest episodes of debt accumulation during the last few decades also suggests the need to look

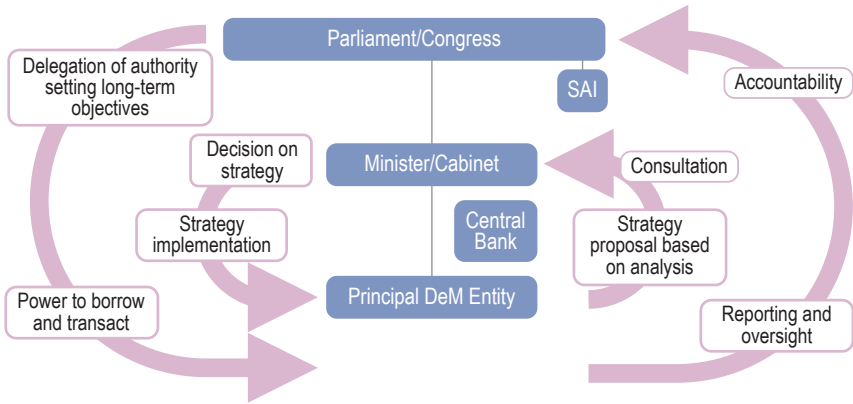
at debt management policies and institutions as important components of any effort to better insulate these countries from future shocks to public debt sustainability. Interestingly, this could also point in the direction of what Acemoglu et al. (2008) call a “seesaw effect.” This effect happens when efforts to improve economic performance (in this case, the primary deficit) have limited effects or even backfire if underlying institutional problems are not addressed. Certain countries could, for example, increase contingencies to comply with primary deficit targets, thus not reducing de facto their debt vulnerabilities. In other words, pressing on one side could raise the other side, especially if debt management institutions are weak and do not take care of contingencies and other market-related risks.

4.3. Debt Management Governance Structures in the Caribbean

While a detailed assessment and benchmarking along all of the key pillars of sound debt management institutions and practices outlined in Box 4.1 is beyond the scope of this chapter,¹² a partial benchmarking exercise linked to a key component of the first of the five pillars highlighted—managerial structures—was undertaken to inform this analysis. This particular dimension of debt management was selected for scrutiny because it represents perhaps the most central pillar of a well-designed and adequately resourced debt management institution. In this context, the DeMPA methodology was used as a guide. IDB country economists from across the Caribbean region were asked to conduct a survey of government officials responsible for debt management functions to determine how they were structured, and whether those structures are consistent with the prescribed international sound practices. A stylized representation of the prescribed structure is presented in Figure 4.8.

While a formal assessment would require follow-up discussions and validation of related supporting documents and legislation, preliminary findings from this survey suggest that even when it comes to this single dimension of debt management institutional structures—one of over a dozen considered crucial for sound debt management—most of the countries analyzed in this chapter would not meet the standards of sound international practices. Detailed survey responses are outlined in Table 4.3.

¹² Assessing the scope of legislation, guidelines, and practices underpinning many of the key dimensions of debt management highlighted in Box 4.1 would require interviews with key officials from relevant ministries in each country, as well as detailed reviews of related information and data. See Mooney, Jensen, and Kida (2011) for an example of such an exercise conducted by the World Bank for Kazakhstan.

Figure 4.8. Stylized Debt Management Governance Structure

Source: World Bank (2015).

Note: DeM: debt management; SAI: Supreme audit institution.

Table 4.3. Debt Management Governance Structures in Caribbean Countries: Survey Results, end-2019

Survey Question	The Bahamas*	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
1. Where is the Debt Management Office located?	Ministry of Finance	Ministry of Finance	Ministry of Finance	Ministry of Finance	Separate Agency	Ministry of Finance
2. Is there a clear separation between front, middle, and back office functions within the Debt Management Office?	n.a.	No	No	Yes	Yes	Yes
3. Is there a Debt Management Committee responsible for ensuring that debt management is consistent with the macro framework, including debt sustainability and macro-financial stability?	Yes	No. While terms of reference for a Debt Management Committee have been developed, this has yet to secure final approval.	No	Yes	No	No
4. If so, who leads the Debt Management Committee?	The Minister of Finance appoints the Committee, but there is no lead.	Debt Manager	n.a.	Financial Secretary	n.a.	n.a.

Source: Survey conducted by IDB Caribbean Country Department economists in 2019. For The Bahamas (*), information based on draft legislation still under review in late 2020.

Note: See Annex 4.2 for further notes and details.

These preliminary results suggest that of the five countries from which responses were confirmed (information should be considered preliminary for The Bahamas, as related legislation has not been finalized), only one had fully developed and implemented a separate agency for debt management, though it is housed outside the Ministry of Finance. Even though there are good reasons to have a separate agency for debt management (i.e., to encourage more independence and a more commercial and professionalized approach), in emerging economies it is normally preferable to locate the Debt Management Office (DMO) within the Ministry of Finance in order to reduce potential principal-agent risks and gain synergies in terms of expertise and monitoring costs. Also, building truly effective independent agencies requires a high level of institutional development and budgetary resources that most Caribbean countries do not yet have.

More importantly, debt managers in Barbados and Guyana reported that there was not a clear separation of functions within their units between front, middle, and back office functions for debt management. Front office functions generally involve leading issuances in primary and secondary market operations, while the middle office should be responsible for policy and portfolio strategy development and accountability reporting.¹³ Back offices focus on transaction recording, reconciliation, confirmation, and settlement. A lack of functional separation within the DMO does not allow for proper specialization, creates inefficiencies in the form of duplications, and produces less functional clarity and accountability within the DMO.

Similarly, only one of the five countries (Jamaica) reported the existence of a fully functioning Debt Management Committee (DMC) responsible for ensuring that debt management decisions and operations are consistent with the macroeconomic framework, including debt sustainability prerogatives and economic and financial stability. A functional DMC is crucial to promote horizontal work so that the management team acts collectively to meet debt management objectives. At the same time, a functional DMC is crucial to making effective use of the skills and resources within the Ministry of Finance, especially if they are scarce, and to communicate with clarity the objectives that the DMO as a whole is trying to achieve and how the work of staff contributes to these objectives. For example, DMCs could be key to promoting adequate coordination between the objectives of debt management and monetary policies or between debt and financial information systems.

¹³ These analytical functions include, inter alia, assessing the costs and risks associated with borrowing instruments, portfolio vulnerabilities to interest rate, currency, and refinancing risks, as well as debt sustainability analyses.

As noted above, while results from the survey reflect only one of over a dozen key pillars of sound debt management, what is clear is that detailed review and assessment of debt management institutions, practices, and capacity for countries across the Caribbean is likely to identify these and many more areas where work is needed to bring standards in line with international best practices. These best international practices for debt management institutions and procedures have been linked to improved outcomes in terms of debt sustainability and macroeconomic and financial stability for countries around the world. The Caribbean countries discussed in this chapter could benefit tremendously from instituting such practices, particularly given their past and current experiences with debt-driven economic instability.

4.4. Conclusions and Further Scope for Assessment

This chapter has introduced the concept of sound practices and structures for public debt management and examined why this is of crucial importance for countries in the Caribbean. As discussed, the difficult history of economic and debt crises in the region suggests that public debt management has been and should remain a key area of focus in terms of institutional design and economic reform. These countries have been and remain among the most indebted and crisis-prone in the world—a dubious distinction.

While part of this vulnerability is linked to the countries' susceptibility to external shocks—ranging from natural disasters to shifts in demand for key exports like commodities and tourism—the roots of problems with debt sustainability also lie in economic institutions, practices, and capacity. In fact, this susceptibility to external shocks needs to be incorporated explicitly into the risk analysis conducted by debt management institutions. The detailed analyses of debt shocks over the past two decades across all six Caribbean countries analyzed in this chapter highlight both similarities and differences in terms of drivers. While external shocks such as the global financial crisis and falling commodity prices have clearly been factors, other less-well-understood issues also appear to have compromised sustainability. The analysis suggests that the usual suspects such as fiscal imbalances were problematic, but perhaps less than one might have expected for many countries.

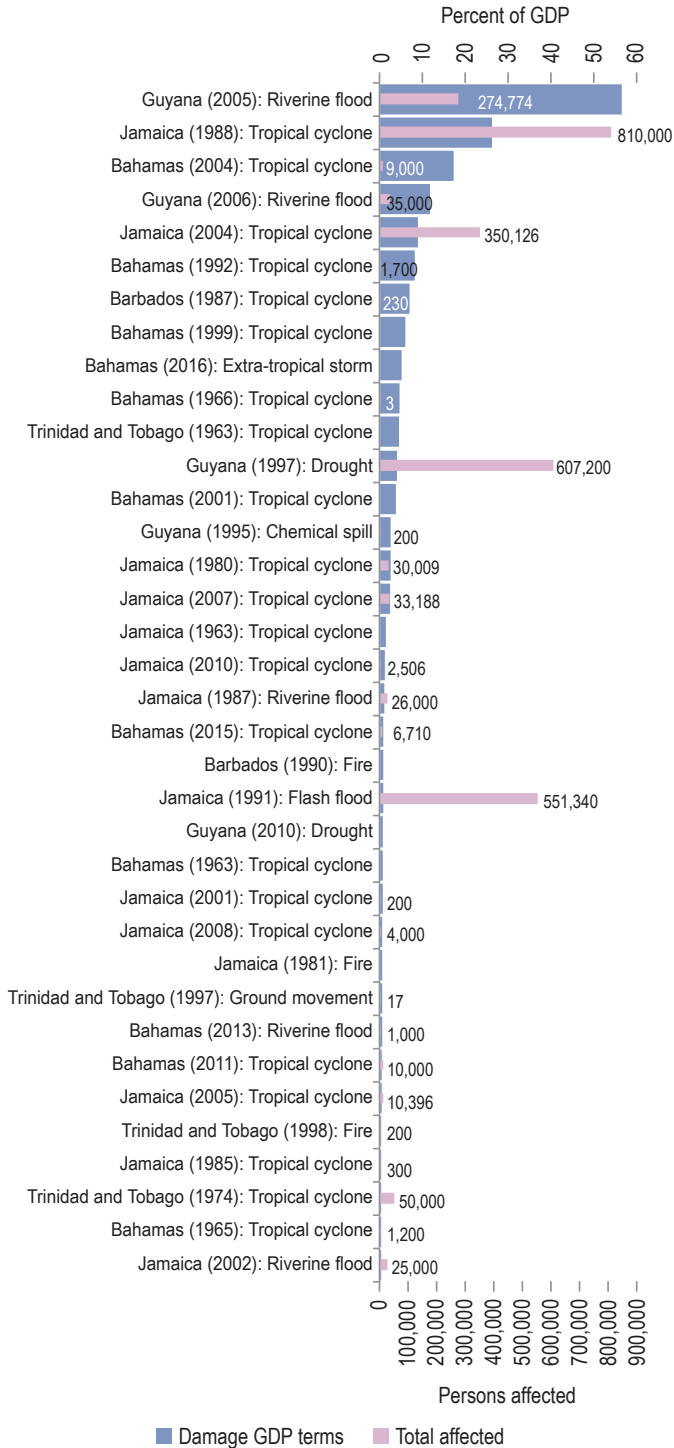
In some cases, countries that were hardest hit by debt crises, such as Jamaica, were running large fiscal surpluses during their most pronounced shocks to public debt stocks, bending against the prevailing wisdom of the most important drivers of crises. Indeed, the analysis suggests that other factors such as poor portfolio construction in terms of the currency and

cost structure of debt instruments left countries vulnerable to exchange rate shocks, as was the case for Suriname and Trinidad and Tobago. That said, exchange rate shocks are intricately related to the stability of the overall macro framework, and the initial degree of indebtedness is an important factor in that stability. Similarly, countries also suffered from large shocks to sustainability from the crystallization of contingent liabilities and/or other unanticipated debt-creating flows. Taken together, these findings suggest that deficiencies in debt management institutions, practices, and capacity were also to blame for the region's debt-related woes.

There is an emerging international consensus regarding the desirability of certain governance and institutional structures linked to public debt management. While somewhat unlike other economic policy structures, debt management institutions are increasingly seen as key pillars of sustainable economic policy and performance. This chapter has also presented the results of a qualitative analysis of one of the most important subsets of sound debt management institutions—governance and decision-making structures. Despite their preliminary nature, the results of the analysis suggest that most countries in the region have considerable scope for improvement in terms of how responsibilities for debt management are defined and distributed, as well as in terms of basic structures for policy coordination across key departments (e.g., ministries of finance and central banks). Taken together, all indications point to the need for further assessment of key institutions and capacity across Caribbean countries in order to identify weaknesses across key areas and put forward recommendations for reform and capacity-building. The COVID-19 crisis and its implications for fiscal and debt sustainability make this an even higher priority.

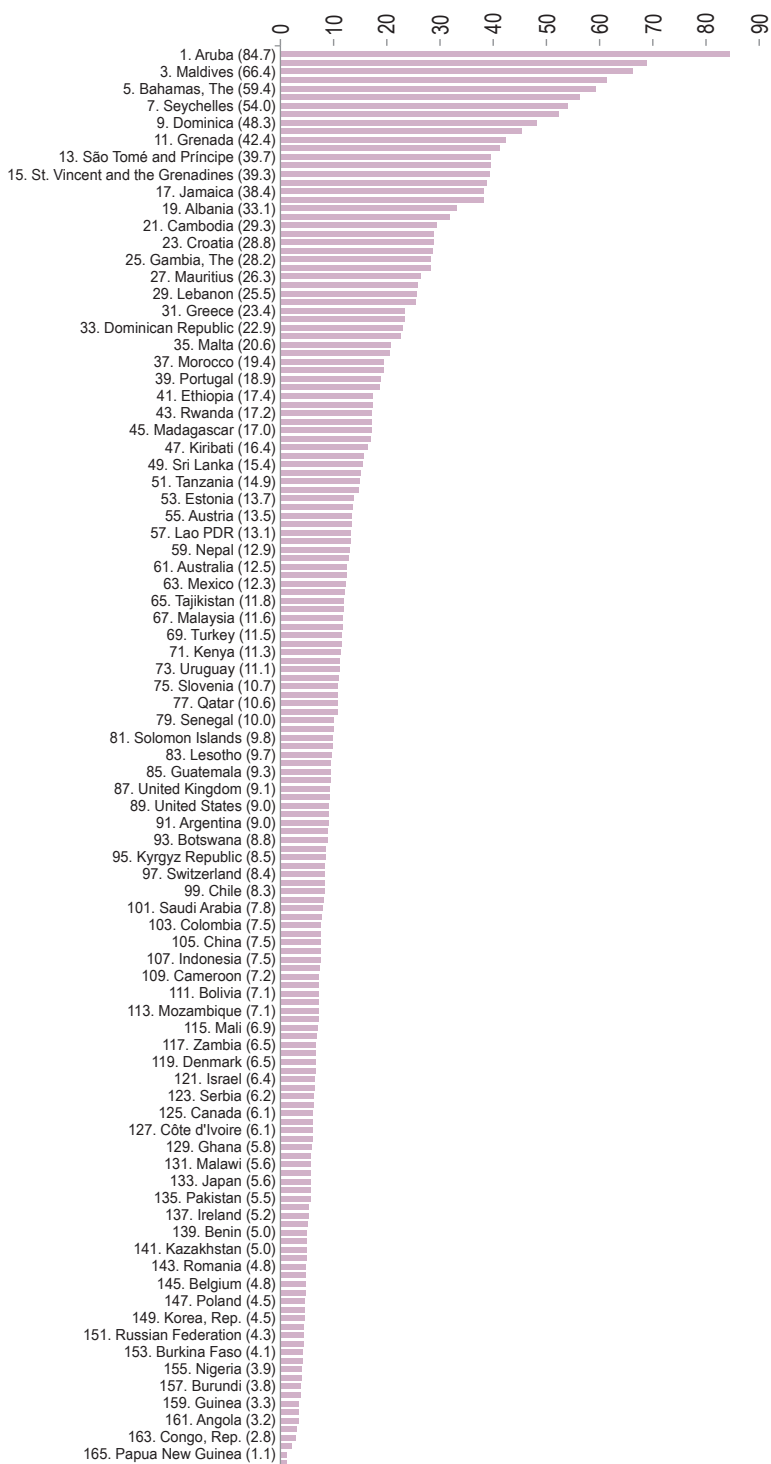
Finally, it is worth noting that the types of debt management instruments required to deal with some of the challenges faced by Caribbean countries, such as currency and exchange rate hedging instruments or natural disaster insurance schemes, require a level of financial sophistication that is beyond the current institutional capabilities of these countries. At the same time, most of the financial instruments required by Caribbean countries to deal with external conditions have not even been developed by the private sector. There is a key role then for multilateral organizations to work together with DMOs and the private sector to provide both the capacity-building and financial instruments needed to deal with highly volatile and uncertain external conditions. In this sense, an important research and work agenda to increase debt resilience in the Caribbean should be devoted to strengthening the institutional and organizational capabilities of DMOs, as well as to develop new financial instruments and contracts for adequate portfolio risk management.

Annex 4.1. Natural Disaster Damage and Numbers of Persons Affected in the Caribbean, 1963-2016



Source: Authors' calculations based on data from the International Monetary Fund and Center for Research on the Epidemiology of Disasters.

Annex 4.2. Tourism Dependency Index Scores for 166 Countries from All World Regions



Source: Mooney and Zagarra (2020).

Note: The Tourism Dependency Index (TDI) is calculated using five-year averages (2014–2018) for the total contribution of tourism to total export receipts, GDP, and employment for each country. The range is from 0 to 100, with 100 representing total dependence on the sector. The TDI covers the 166 countries globally for which data were available.

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Strengthening the Institutional Fiscal Framework in the Caribbean

*Teresa Ter-Minassian*¹

In recent decades, the Caribbean region has been characterized by slow and volatile growth, low levels of investment and productivity, skill-biased emigration, and significant levels of crime. This record compares unfavorably with the average of other small economies (Fajgenbaum and Loser 2018). Exogenous factors, such as climate-related natural disasters, sharp commodity price swings, and volatility in tourism demand have certainly contributed to this sub-par performance. But as well documented in Beuermann and Schwartz (2018), the performance also reflects a range of long-standing institutional weaknesses, including in education and health, public safety, the judicial system, and the regulatory regime.

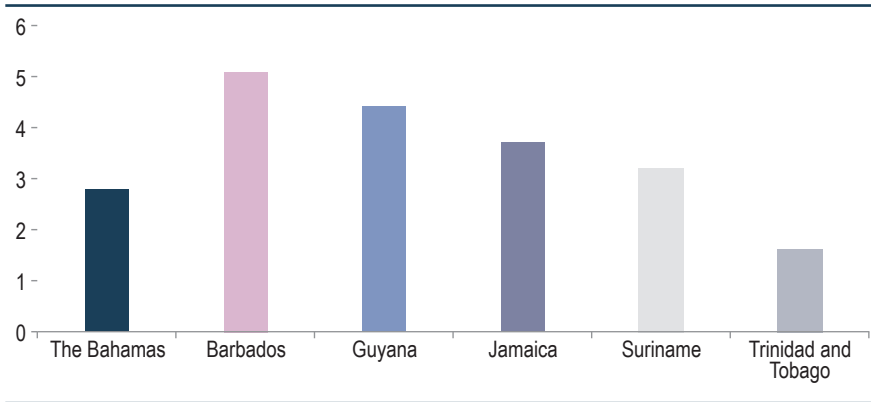
Although it has improved in recent years in some countries, fiscal performance has constituted a major area of weakness in the Caribbean over the past two decades. All six countries included in this study—The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago—experienced significant deficits on average over 2000–2018 (Figure 5.1). This largely reflected a combination of substantial volatility in revenue and strong procyclical expansion of current spending during tourism or commodity price booms, which proved difficult to reverse during subsequent busts such as in 2008–2009 and 2015–2016.

As a result of these deficits and low growth, ratios of gross public debt to GDP rose substantially over the same period, with the exception of Guyana, which benefited from relief under the Multilateral Debt Relief Initiative in 2006–2007, and Jamaica, which has undertaken a strong fiscal adjustment since 2013 (Figure 5.2).² As documented in Chapter 4 of this volume,

¹ The author would like to thank Diether Beuermann, Rolando Ossowski, Moisés Schwartz, and María Alejandra Zegarra Diaz for their helpful comments and input.

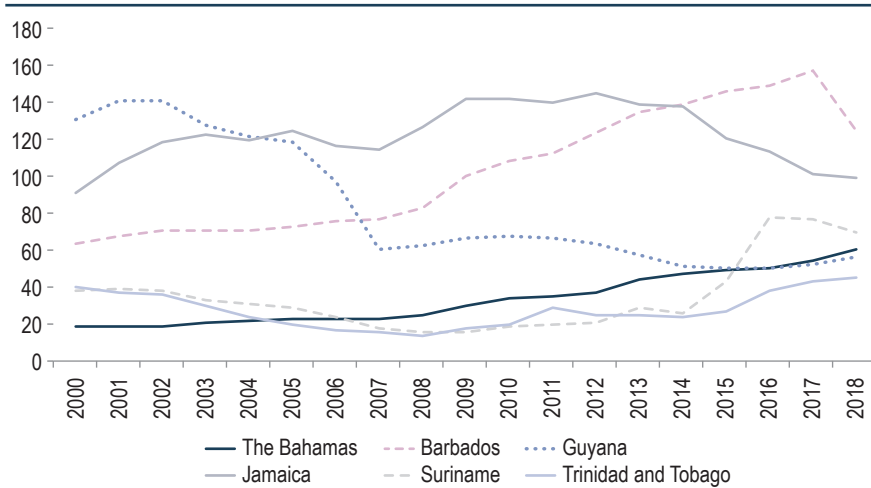
² Jamaica engaged in a program supported by the International Monetary Fund under the IMF's Extended Fund Facility in May 2013, and subsequently a 36-month Stand-By Arrangement initiated in November 2016.

Figure 5.1. General Government Deficits, Average over 2000–2018 (percent of GDP)



Source: International Monetary Fund, World Economic Outlook database.

Figure 5.2. Gross General Government Debt (percent of GDP)



Source: International Monetary Fund, World Economic Outlook database.

public debt levels remain high in most Caribbean countries (close to or over 60 percent of GDP, well above the average of emerging economies), and in half of them those levels are still rising. As well documented in the literature, relatively high levels of public debt increase countries' financing costs and their vulnerability to changes in market confidence. Moreover, some of the countries that are dependent on revenues from nonrenewable natural resources face the prospect of exhaustion of such resources within the next few decades.

Reducing public debt to more sustainable levels will require significant fiscal consolidation in most of the countries. To ensure that the adjustment is sustained over the medium term and is carried out through quality measures, it is critical to strengthen the institutional fiscal framework, including fiscal rules, medium-term fiscal frameworks (MTFFs),³ transparency and accountability, independent fiscal councils, and revenue and expenditure management systems.⁴

This chapter focuses on the role that fiscal rules and independent fiscal councils can play in promoting sustained and good-quality adjustment in the public finances of the six Caribbean countries under consideration. The next section discusses the main issues in the design, implementation, and effectiveness of fiscal rules, drawing on the extensive literature and international experiences in this area. It includes a subsection focusing on the special challenges posed in this respect by some countries' substantial dependence on nonrenewable natural resources. It also covers issues related to the creation of independent fiscal councils, and the limited empirical evidence to date on their effectiveness. The chapter then discusses the lessons from the analysis of the preceding section for each of the six Caribbean countries in turn. It briefly reviews the existing framework for macro-fiscal policies in each country in light of applicable good or best practices and puts forward some suggestions for improvement. The final section of the chapter presents some concluding thoughts.

5.1. Fiscal Rules and Independent Fiscal Institutions: An Overview of Theory and International Experience

5.1.1. Main Issues in the Design of Fiscal Rules

Fiscal rules can be procedural or numerical. Procedural rules define the attributes and interaction of participants in the budget process. They aim to enhance transparency, accountability, and the effectiveness of fiscal management. As such, they constitute a key component of sound public financial management systems.

Numerical rules involve standing commitments to achieve specific numerical targets for one or more key budget aggregates over a specified

³ For a comprehensive discussion of global experience with MTFFs, see World Bank (2013).

⁴ There is a vast literature on the importance of sound institutions for successful conduct of fiscal policies. See Fajgenbaum and Loser (2018) for a distillation of the lessons of this literature for the Caribbean context.

time horizon. By constraining governments' discretion in the conduct of fiscal policies, these rules aim to avoid politically expedient time-inconsistency in such conduct. They are also used as signaling devices to the population or to financial markets of a government's commitment to fiscal responsibility.

Most countries use a combination of procedural and numerical fiscal rules. Often, they are both embodied in comprehensive fiscal responsibility laws. This chapter focuses on the design and implementation of numerical rules. The main issues regarding procedural rules are discussed in Chapter 3 of this volume, which focuses on public financial management systems.

The number of countries that have adopted numerical rules has increased rapidly in the last three decades. In 1990, only five advanced countries had enacted fiscal rules. By 2015, 31 advanced countries, 34 emerging markets, and 27 low-income countries had done so. The vast literature on numerical rules suggests that the main challenge in their design and implementation is to appropriately balance the (sometimes conflicting) objectives of simplicity, flexibility, and enforceability of the rules.⁵

"First-generation" rules introduced during the 1990s and early 2000s generally prioritized simplicity, as they were based on nominal or primary budget balances that are relatively easy to verify and familiar to economic agents. Such rules had, however, significant drawbacks, including that they:

- Facilitated procyclical conduct of fiscal policy, as they did not require saving revenue windfalls during cyclical booms and did not permit deficits (even when financeable) during recessions.
- Did not ensure medium-to-long-term debt sustainability, since they did not impose limits on extra-budgetary operations that increase public debt. This in turn created incentives for quasi-fiscal operations and various accounting stratagems.⁶
- Were often not supported by adequate instruments to enforce them, such as effective monitoring mechanisms, sanctions for non-compliance, and requirements for timely correction of deviations from the targets.

In the last decade, many advanced and developing countries have experimented with the design and implementation of fiscal rules to address such drawbacks. The main lessons from international experiences

⁵ For a recent review of this literature, see Eyraud, Debrun, et al. (2018).

⁶ Irwin (2012) provides many examples of such "creative accounting."

with such “second-generation” rules are briefly summarized in the sections that follow.

The Legal Basis for Rules

A robust legal foundation for a fiscal rule can significantly enhance the prospects for its effective and sustained observance, because it raises the cost of its lack of enforcement or abandonment, thereby enhancing its credibility. The question is, how robust should that foundation be? The higher the level of the law establishing the rule, the more difficult it is to change it. Thus, there is a trade-off between the objectives of strengthening the commitment to the rule, on the one hand, and preserving an adequate degree of flexibility, on the other. In most countries, fiscal rules are established through legal instruments stronger than ordinary laws that can be modified by a subsequent budget law.⁷ Such legislation requires in many cases a qualified majority for its approval or modification. In some cases (e.g., several euro area countries), the rules are included in laws of a constitutional rank. The higher the level of the legislation establishing a fiscal rule, the more important it is that the legislation transparently includes adequate elements of flexibility, in particular appropriate escape and revision clauses, as discussed below.

The Objectives of Different Rules

Rules with different bases (public debt, primary or overall budget balances, or expenditure growth) prioritize different objectives (fiscal sustainability, short-term financing availability, and the stabilization or reduction of the size of the public sector, respectively). Ceilings on the ratio of public debt to GDP (or to revenues) are best to anchor the conduct of fiscal policy over the medium to long term, and to bolster its credibility with economic agents. Therefore, ceilings are currently the type of rule most commonly used in countries. However, debt-based rules do not provide immediate operational guidance for annual budget formulation, unless the debt ratio is already at, or very close to, the ceiling. Therefore, they need to be complemented by rules based on budget balances or on spending growth to orient the annual budget process. Most countries currently use more than one rule. Specifically, as of 2015, the average number of rules for non-EU

⁷ Specifically, the percentage of countries that have adopted rules through laws higher than ordinary ones doubled between 1995 and 2015 to nearly two-thirds of all rule-adopters.

countries was about two, while for EU members it was close to six (national plus supranational). Selected examples of the bases of rules are displayed in Tables 5.1 and 5.2 for advanced and emerging countries, respectively.

Table 5.1. Fiscal Rules in Selected Advanced Countries, 2015

Country	Type of Rule ^a	Legal Basis ^b	Coverage ^c	Escape Clause
Australia	DR, BBR, ER, RR	L	CG	No
Canada	DR	L	GG	No
France	DR, SBR, ER, RR	IT, L	GG	Yes
Germany	DR, SBR, ER	IT, C, L	GG	Yes
Italy	DR, SBR, ER	IT, C, L	GG	Yes
Japan	BBR	L	CG	No
Netherlands	DR, SBR, ER, RR	IT, L	GG	Yes
New Zealand	DR, BBR	L	CG	No
Norway	BBR	L	CG	No
Spain	DR, SBR, ER	IT, C, L	GG	Yes
Sweden	DR, SBR, ER	IT, L	GG	Yes
Switzerland	BBR	C	CG	Yes
United Kingdom	DR, SBR, ER	IT, L	GG	Yes
United States	ER	L	CG	No

Source: International Monetary Fund, Fiscal Rules database.*

^a Type of Rule: BBR: budget balance rule; DR: debt rule; ER: expenditure rule; RR: revenue rule; SBR: structural or over-the-cycle balance rule.

^b Legal Basis: C: constitution; L: law; IT: international treaty.

^c Coverage: CG: central government; GG: general government.

* See Lledó et al. (2017) for a methodological discussion of the IMF's database on fiscal rules.

Table 5.2. Fiscal Rules in Selected Emerging Market Countries, 2015

Country	Type of Rule ^a	Legal Basis ^b	Coverage ^c	Escape Clause
Brazil	ER	C	CG, SNG	Yes
Chile	SBR	L	CG	No
Colombia	SBR, ER	L	CG	Yes for SBR
India	BBR	L	CG	No
Indonesia	DR, BBR	L	GG	No
Malaysia	DR, BBR ("golden rule")	L	CG	No
Mexico	BBR, ER	L	CG, SNG	Yes
Peru	DR, BBR, ER	L	PS	Yes for BBR
Russia	ER (oil price-based)	L	CG	Yes
Singapore	ER, BBR	C	CG	Yes for BBR

Source: International Monetary Fund, Fiscal Rules database.

^a Type of Rule: BBR: budget balance rule; DR: debt rule; ER: expenditure rule; SBR: structural or over-the-cycle balance rule.

^b Legal Basis: C: constitution; L: law.

^c Coverage: CG: central government; GG: general government; PS: nonfinancial public sector; SNG: sub-national governments.

Coverage of the Rules

To be effective, rules should have broad coverage in terms of both the institutional sectors and the definition of the basis of the rules, because narrow coverage can create incentives to shift deficits to the excluded sectors (e.g., subnational governments or public or state-owned enterprises), or to resort to the “creative accounting” mentioned above.

However, rules can reasonably differ for different institutional sectors in terms of the definition of their base and quantitative targets. For instance, debt limits could be set in relation to GDP for the central government and to revenues for subnational governments and state-owned enterprises (SOEs). A more detailed discussion of rules for these components of the public sector can be found in Ter-Minassian (2015, 2017).

More generally, there is broad consensus that debt rules should refer to gross public debt, defined according to international accounting standards, and that ceilings should also be set on the stock of government guarantees and on the present value of firm commitments under public-private partnerships (PPPs), leases, and other similar arrangements. The rationale for preferring a gross to a net financial debt definition is related to the inevitable uncertainties regarding the liquidity and quality of government financial assets, and to the fact that frequently the rate of return on such assets is lower than the average cost of the public debt. Nevertheless, in choosing a target for gross debt, countries should consider the size and liquidity of their financial assets.

Balance-based rules should target comprehensive measures of the overall balance, including net lending by the government, to approximate as closely as possible the government’s borrowing requirements (net of debt amortizations). This is relevant because government loans or equity infusions to loss-making SOEs are often close (but less transparent) substitutes for budgetary subsidies.

Expenditure rules should also be broadly defined to include all categories of noninterest (primary) spending in order to effectively constrain the size of government over time, and to incentivize structural fiscal reforms necessary to increase spending flexibility (such as reforms of pension systems, the civil service, or intergovernmental transfers, and a reduction of earmarking provisions) and efficiency (e.g., reforms in spending on health, education, or public safety) (Cordes et al. 2015).

A question that remains quite controversial in the literature is whether public investments should be excluded from spending rules (or from budget balance targets, the so-called “golden rule”). Proponents of such an exclusion argue that preferential treatment of investments under

fiscal rules is justified by the fact that they tend to be the first victims of spending cuts, leading to large infrastructure gaps; typically have larger multiplier effects; and, in contrast to current spending, create assets for the government.⁸

However, several considerations argue against such exclusion, in particular the fact that it can disincentivize efforts to improve public investment management processes; favor spending on new projects, rather than on the maintenance and proper operation of existing ones, as well as on investment in physical rather than human capital; and stimulate creative accounting (e.g., the classification of capital transfers to loss-making enterprises as public investments).

On balance, there may be a case for preferential treatment of public investment under a spending rule, but only under stringent conditions, namely, if fiscal sustainability is protected by a debt rule; the country's infrastructure gap is large; the quality of the investments is guaranteed by sound systems of project preparation, selection, monitoring, and evaluation; and the accounting regulations are effective in avoiding improper classification of current expenditures as investments. The preferential treatment could take, for example, the form of setting a ceiling on the ratio of current to total primary spending.

Finally, to avoid incentives for governments to use tax exemptions, deductions, or other preferential treatments in lieu of transfers or subsidies, the best international practice (e.g., as in the European Union) is to define expenditures under the rule as net of the revenue impact of discretionary changes in tax rates or tax expenditures. This means that tax cuts or new tax expenditures reduce the room for growth of expenditures, while tax increases or reductions in tax expenditures increase it.

The Choice of Numerical Targets for the Rules

The choice of numerical targets needs to reflect specific country circumstances, including the starting levels of the variables that constitute the basis of the rules, their desirable path over time to achieve or maintain fiscal sustainability, and their sensitivity to exogenous shocks. As most

⁸ See Blanchard and Giavazzi (2004), Ardanaz and Izquierdo (2017), and Izquierdo, Pessino, and Vuletin (2018). A number of advanced and emerging countries have, or have had in the past, types of "golden rules," especially at the subnational level. The changes in national legislation in euro area countries to implement the 2012 Fiscal Compact eliminated such rules in the area.

countries use more than one rule, it is essential that the targets be mutually consistent, although that may change over time.⁹

In general, the limit on public debt should be chosen first, based on prudent estimates of the degree of markets' debt tolerance for the country. If the starting level of the debt is above such a limit, the rule should specify an ambitious but feasible path of convergence to it. The choice of multi-annual targets for the budget balance should be guided by simulations of the path of the balance needed to ensure that the debt would remain under the limit with probability within a pre-specified confidence interval under appropriate stochastic or deterministic stress-test scenarios.¹⁰

Need for Flexibility

There is substantial empirical evidence in both advanced and developing countries that fiscal policies tend to be procyclical, especially during boom periods.¹¹ To avoid such procyclicality, the rules should allow automatic stabilizers to operate, provided that debt ceilings are complied with and there is access to financing at an acceptable cost.¹² Indeed, Ardanaz et al. (2020) studied the experience of 75 advanced and emerging economies during the 1990–2018 period. The authors show that flexible rules defined as those that include mechanisms to accommodate exogenous shocks (e.g., cyclically adjusted fiscal targets, well-defined escape clauses, and differential treatment of investment expenditures) do not convey negative effects of fiscal adjustments on public investment.

Rules based on primary or overall budget balances not adjusted for the cycle tend to be procyclical. Rules based on structural balances (balances adjusted for output and commodity price cycles, as well as for one-off

⁹ For instance, the ceilings on gross public debt (60 percent of GDP) and the annual budget deficit (3 percent of GDP) under the corrective arm of the EU's Stability and Growth Pact could have been regarded as mutually consistent when the average growth rate of nominal GDP in the European Union was around 5 percent. With current lower growth and inflation rates, the deficit consistent with the maintenance of the debt below 60 percent of GDP is likely to be on average lower than 3 percent.

¹⁰ Eyraud, Baum, et al. (2018) provide a useful primer on a recommended methodology for the calibration of fiscal rule targets.

¹¹ See Balassone and Kumar (2007). The extent of procyclicality during downturns tends to be mainly influenced by the availability of financing.

¹² In advanced countries, automatic stabilizers include the response of both revenues and some types of expenditures (notably unemployment benefits) to changes in the output gap. In emerging countries that often lack significant mechanisms of unemployment insurance, automatic stabilizers operate primarily on the revenue side (including revenues shared with other levels of government).

factors) avoid the procyclicality drawback, but require reliable estimates of output and price gaps, and of the elasticities of revenues to both.

The substantial technical difficulties besetting real-time estimates of output gaps are well documented in the literature,¹³ and they have led some hitherto strong proponents of the use of structural balances, such as the European Commission, to increasingly favor expenditure-based rules instead.¹⁴ Estimating output gaps is especially difficult in countries heavily dependent on revenues from tourism or exports of commodities, where economic cycles are driven by developments in foreign countries or in international markets. The difficulties of estimating commodity price cycles are discussed further in the next section of this chapter.

Moreover, structural-balance-based rules are not easily understood by the average citizen and estimates by the government based on them are often mistrusted by economic agents, especially when they are not subject to vetting by independent entities (such as an independent fiscal council). Nevertheless, the number of countries utilizing some type of cyclical adjustment for their budget-balance-based rules has risen considerably over the past decade, with about 40 percent of countries adopting such rules in 2015. Most of these countries are advanced economies (Tables 5.1 and 5.2).

Rules limiting the rate of growth of public expenditures to that of potential GDP avoid procyclicality, but also need reliable estimates of the growth of potential or trend GDP. However, estimating the trend growth of GDP is less fraught with technical difficulties than estimating the level of the output gap.

A drawback of expenditure rules is that they are sensitive to initial conditions. If the initial level of the expenditures is too high, allowing them to

¹³ See Ter-Minassian (2010), Tereanu, Tuladhar, and Simone (2014), Eyraud and Wu (2015), and Ossowski and Halland (2016). An analysis of the euro area over 2003–2016 (Eyraud, Baum, et al. 2018) suggests that the output gap in its member countries was underestimated in real time by 1.3 percentage points. This resulted in significant overestimations of the structural balances (on the order of half a percentage point of GDP on average). Errors in real-time or one-year-ahead measurement of GDP, and consequently of the level of the output gap, are likely to be even higher in less advanced countries.

¹⁴ Structural budget balances (adjusted for the cycle and impact of one-off revenues) remain one of two alternative bases (the other being expenditure growth) for medium-term objectives under the preventive arm of the EU's Stability and Growth Pact, but their measurement has frequently given rise to disputes between national governments and the European Commission. Therefore, in recent years, the commission has given increasing weight to the expenditure-based rule in assessing countries' compliance with their medium-term budgetary objectives.

grow in line with trend GDP can lead to fiscal unsustainability. If it is too low, the rule can unduly constrain the provision of needed public services or infrastructures. This shortcoming is partly, but not fully, remedied by rules constraining the growth of expenditures in real terms. Finally, but importantly, spending rules alone cannot be relied upon to ensure fiscal sustainability, because they do not require an adjustment of spending to structural changes in revenues, and therefore should only be used in conjunction with a debt-based rule.

One element of flexibility needed for fiscal rules is the inclusion of escape clauses that are clearly specified and verifiable based on measurable variables outside the government's control. The clauses should cover temporary shocks that are exceptional and exogenous, and whose timing and magnitude cannot be foreseen, such as major natural disasters (Box 5.1), severe recessions, sharp declines in relevant commodity prices, or the current COVID-19 pandemic. The minimum degree of severity of such shocks required to trigger the application of the clause should be

BOX 5.1. MANAGING FISCAL RISKS FROM NATURAL DISASTERS

Natural disasters are endemic and increasingly frequent worldwide. Their economic and fiscal costs tend to be disproportionately higher for small countries than for large ones, and they have been especially damaging to small Caribbean states.^a These costs typically include temporary but sometimes protracted negative effects on real GDP growth and on the balance of payments of the affected country. The fiscal position is adversely affected by the ensuing impact on tax bases and tax revenues, and by the additional expenditures on relief and reconstruction. When these effects are large, they can lead to spiraling public deficits and debt.

Appropriate risk management strategies for natural disasters go well beyond the introduction of escape clauses in a country's fiscal rules. They include:

- Preventive measures, ranging from public investments to bolster the resiliency of key public infrastructure to regulations that promote adaptation, and the adoption of adequate insurance mechanisms by private households and firms.
- The building of fiscal buffers in the form of self-insurance through adequate budgetary provisions and low debt levels; arrangements for quick access to contingent credit lines from international financial institutions^b or private financial institutions to finance essential relief and reconstruction spending; purchase of insurance from multilateral or regional institutions^c or from financial markets;^d and issuance of so-called catastrophe bonds, which allow the issuer to forgo repayments of the principal in the event of major disasters.

(continued on next page)

BOX 5.1. MANAGING FISCAL RISKS FROM NATURAL DISASTERS *(continued)*

- Developing specific and detailed contingency plans for actions appropriate to deal with different types of disasters (e.g., hurricanes, earthquakes, floods, or droughts).
- Such strategies need to be designed in ways that take into account the relevant characteristics of individual countries, such as their histories in terms of the occurrence of different types of disasters, the structure of the economy, financing availability, legal and institutional frameworks, and human capacity constraints. International financial institutions and multilateral development banks can play useful supporting roles in the design and implementation of the strategies through both technical assistance and their financial facilities.

^a See Otker and Loyola (2018) for empirical evidence in this respect.

^b Examples include the Inter-American Development Bank's Contingent Credit Facility for Natural Disaster Emergencies; the International Monetary Fund's Rapid Credit Facility and Rapid Financing Instrument; and the World Bank's Catastrophe Draw-Down Option.

^c For example, the Caribbean Catastrophe Risk Insurance Facility.

^d For example, New Zealand's Earthquake Commission purchases insurance in international markets. This has funded most of the reconstruction following the devastating earthquake of 2011 that caused major damage in the Christchurch city and region.

specified in the legislation enacting the rules, and should be defined taking into account the historical record of the country in the relevant areas.¹⁵ Escape clauses are currently included in about one-third of laws adopting fiscal rules, but with varying degrees of specificity in both content and procedures for triggering their application (Table 5.3).¹⁶

5.1.2. *Main Issues in the Implementation and Enforcement of Fiscal Rules*

Even well-designed rules are likely to be ineffective if not well implemented and consistently enforced. International experience points to several lessons in this respect.

Sound Public Financial Management Systems Are Crucial

Sound public financial management institutions are essential for successful conduct of fiscal policy, regardless of whether or not it is rules-based. The adoption of numerical fiscal rules raises the bar on the needed strength of

¹⁵ For instance, the legislation could specify that the clause could only be triggered if the shock exceeded the standard deviation of the relevant variable during the last 10 years.

¹⁶ See Schaechter et al. (2012) for further country details.

Table 5.3. Selected International Examples of Escape Clauses

Country	Natural Disaster	Recession ^a	Bank Bailout	Other Factors	Authorization Required	Correction Required
Brazil	Yes	Yes	No	No	Yes	No
Colombia	No	Yes	No	Yes	Yes	No
Mexico	No	Yes	No	No	No	No
Panama	Yes	Yes	No	Yes	No	Yes
Peru	Yes	Yes	No	Yes	No	Yes
Slovak Republic	Yes	Yes	Yes	Yes	No	No
Switzerland	Yes	Yes	No	Yes	Yes	Yes
Euro area	No	Yes	No	No	No	Yes
WAEMU	No	Yes	No	No	No	No

Source: Prepared by the author based on national and international sources.

Note: WAEMU: West African Economic and Monetary Union.

^a The definition of recession varies from country to country. In the euro area, a severe economic downturn is defined as negative real growth of GDP or as an accumulated loss of output during a protracted period of very low real growth of GDP relative to its potential. Rules should be valid for extended periods of time. Frameworks whose numerical targets can change every year cannot really be considered rules, as they do not signal a sustained commitment to a given conduct of fiscal policy. However, since countries often undergo structural changes relevant for fiscal policy over the medium to long term, it is highly desirable to include in the legislation enacting a fiscal rule a provision for periodic reviews and, if necessary, revisions of the rule's targets.

public financial management institutions, given the reputational and other costs entailed by noncompliance with the rules. Therefore, a careful assessment of how the existing public financial management institutions conform to minimum requirements for effective implementation of fiscal rules is needed when considering the adoption of the rules. If the minimum preconditions are not met, it may be preferable to put in place the necessary public financial management reforms before legal adoption of fiscal rules.¹⁷

Reliable budget forecasts and medium-term fiscal frameworks

Quality budget forecasts are crucial. The baseline projections for revenues and expenditures should be based on prudent assumptions about macroeconomic and other relevant (e.g., demographic) developments, and about the sensitivity of fiscal variables to such developments, considering the relevant historical evidence.

Moreover, it is important to subject the baseline projections to stress-testing to ensure that the budget would remain compliant with the rules under a range of adverse scenarios. Such scenarios should include shocks

¹⁷ See Corbacho and Ter-Minassian (2013) for a detailed discussion of public financial management requirements for fiscal rules. See Chapter 3 of this volume for a discussion of sound public financial management systems.

below the threshold for triggering the relevant escape clauses, and should allow for any correlation among different types of shocks.¹⁸ The simulated shocks should include the expected value of the realization of explicit and quantifiable implicit contingent liabilities, which themselves may be correlated with other shocks.

The adoption of a numerical fiscal rule does not per se require developing a full-fledged MTFF. However, lengthening the time horizon of the budget formulation process can be very helpful in promoting observance of the rule, particularly by highlighting trends that would threaten the achievement of the fiscal targets in future years. At the same time, the existence of a rule can facilitate the formulation of an MTFF by providing more certainty about the medium-term targets for some budgetary aggregates.

The steps required in formulating an MTFF consistent with the fiscal rule largely mirror those involved in the formulation of the annual budget, but with added uncertainties given the longer time horizon involved. Transparency in the methodology and assumptions utilized in the preparation of MTFFs is crucial for the credibility of the frameworks, as is a comprehensive risk analysis of the projections.

Timely monitoring and control of budget execution

Timely and proactive monitoring of budget execution is needed to ensure that risks of deviations from the rules' targets are identified in time to allow for appropriate corrective actions. Main weaknesses in the budget execution systems that can threaten compliance with numerical fiscal rules include poor internal control mechanisms, leading to spending overruns that are detected too late to be corrected during the budget year; excessive use of supplementary appropriations during budget execution, frequently to legitimize such overruns; and the absence of a Treasury Single Account.

Sound accounting systems

Accounting systems should be uniform for all units of government, a requirement that is frequently not observed. The risks from lack of uniformity can be exemplified by Brazil's experience in this regard. Although the country's Fiscal Responsibility Law mandates that uniform accounting standards should be defined by a special council (Conselho de Gestão Fiscal) that includes high-level national and subnational representatives, the council has not been set up to date, and the states have chosen different definitions for their payrolls, which are subject to a limit of 60 percent

¹⁸ A comprehensive methodological discussion of fiscal risk analysis can be found in IMF (2016).

of each state's net revenues. This has facilitated excessive growth of such payrolls in several states, contributing to their current conditions of acute fiscal stress.

The budget classification (preferably conforming to international standards) and the chart of accounts should be consistent with one another. The accounting information needs to be reliable and timely, allowing for monitoring of the fiscal targets under the fiscal rule and the main factors that affect their evolution.

A number of accounting risks can threaten effective operation of fiscal rules. Some stem from the coverage of the rules, which can create incentives to resort to such activities as extra-budgetary or quasi-fiscal operations, the provision of guarantees in lieu of explicit subsidies or capital transfers to enterprises, and engagement in PPPs not justified by efficiency considerations.¹⁹

Other risks relate to the basis of the rule, including the misclassification of current expenditures as capital expenditures under a current balance rule, the use of tax expenditures in lieu of subsidies and transfers under an expenditure rule, and the accumulation of liabilities (e.g., to suppliers) not recorded in the debt statistics under a debt rule.

Minimizing such risks requires the enactment and internal enforcement of comprehensive and detailed accounting regulations; appropriate penalties for noncompliance with such regulations; and adequate external scrutiny, for example by well-functioning audit institutions and independent fiscal councils (discussed further below).

Rules Should Include Appropriate Enforcement and Correction Mechanisms

Enforcement mechanisms for rules vary significantly across countries. Several countries apply sanctions for noncompliance with their subnational fiscal rules. The EU's Stability and Growth Pact envisages financial sanctions for countries under the Excessive Deficit Procedure. Institutional sanctions apply to the violating jurisdiction and are typically financial in nature. Personal sanctions apply to the responsible official, and typically involve a combination of administrative and financial penalties. Sanctions should be clearly specified in the legislation enacting a rule, be graduated to reflect the seriousness of the offense, and leave minimum scope for discretion in their application.

¹⁹ For examples of the wrong incentives created by accounting rules for PPPs, see Cangiolo et al. (2006), Irwin, Mazraani, and Saxena (2018), and Reyes-Tagle (2018).

International experience to date suggests that financial sanctions are unlikely to be effective in promoting compliance by sovereign governments, although they may play a deterrent role at the subnational level. For instance, the EU's above-mentioned financial sanctions have not been applied to date.

To promote compliance, it would seem preferable to rely on reputational incentives (i.e., on the responses of financial markets and electorates to significant, and transparently reported, noncompliance with the rules). An independent fiscal council can play a useful role in this respect by providing detailed nonpartisan technical analysis of the extent of noncompliance and the factors responsible for it.

The enforcement of rules should also be supported by explicit requirements to correct deviations from the targets within a reasonable, pre-specified time period. An interesting example in this respect is provided by Switzerland's long-standing "debt brake" rule.²⁰ A similar mechanism was included in the 2012 constitutional revision introducing a structural balance rule in Germany.²¹ The recent reforms of the EU's Stability and Growth Pact also include a requirement that legislation translating the EU's supranational fiscal rules into national ones envisage specific and time-bound correction mechanisms.

5.1.3. Fiscal Rules for Countries Dependent on Nonrenewable Natural Resource Revenues

Fiscal management is significantly more complex in countries dependent on nonrenewable natural resources than in others because of various characteristics of such revenues:²²

²⁰ Under this rule, any ex post deviation of the federal structural budget balance outcome from the target is recorded in a notional account. When the cumulative deviation exceeds 6 percent of annual budgetary expenditures (equivalent to about 0.6 percent of GDP), the government is required to announce measures to eliminate this excess within three years. See Danninger (2002) for details.

²¹ The German rule requires the federal government to run a structural surplus equivalent to 0.35 percent of GDP, and the states a structural balance, starting in 2016. Deviations from these targets will be accumulated in a notional account, and a correction will be required when the cumulative deviation exceeds 1 percent of GDP. The rule contemplates a temporary escape clause to be invoked by a majority of Parliament and a reentry path if the clause is activated. There are no explicit sanctions for nonobservance, but the law mandates the creation of an independent watchdog (a Stability Council) to monitor implementation of the rule and issue early warnings when appropriate.

²² For a detailed discussion of empirical evidence on these characteristics, see Villafuerte, López-Murphy, and Ossowski (2010) and Ossowski and Halland (2016).

- Their high degree of uncertainty, due to the strong volatility and unpredictability of resource prices and to the difficulties of reliably estimating the size of resource reserves and forecasting future production volumes and costs, as well as changes in fiscal regimes for resource exploitation and in real exchange rates.
- Their exhaustibility and risk of technical obsolescence over long-term horizons, often difficult to estimate reliably.
- Their impact on domestic demand and on the exchange rate (including the risk of “Dutch disease”).
- The fact that their size and timing can strain a country’s public financial management systems.
- The political economy pressures and distributional conflicts frequently associated with large natural resource rents.

These characteristics have important implications for the conduct of fiscal policies in countries dependent on nonrenewable natural resources, and in particular for the design of their fiscal frameworks, including rules.

It is important to avoid fiscal procyclicality by smoothing public spending in the face of highly volatile nonrenewable natural resources as much as possible. Rules based on unadjusted primary, current, or overall balances have the disadvantages of accommodating spending booms during revenue upswings and then being difficult to subsequently reverse. They also often require inefficient or disorderly spending cuts during downswings. Among the countries that use unadjusted balances as the base for their rules are Indonesia, Mexico, Nigeria, and Peru.

However, the utilization of rules based on balances adjusted for deviations of resource prices from long-term “normal” reference values is also problematic, given the difficulty of reliably estimating such values. In the case of oil, prices seem to behave like a random walk without drift, and shocks tend to be protracted (Hamilton 2008). Some resource-rich countries (e.g., Chile and Colombia) use moving averages of past and market futures prices to make these estimates, but this can lead to significant undershooting or overshooting for years in the presence of persistent price shocks. Moving averages of past prices take time to converge to actual prices, while futures prices typically extrapolate the more recent prices.

For these reasons, several authors have argued that minimizing the risk of procyclical fiscal policies in countries dependent on nonrenewable natural resources is best achieved by using a primary or overall non-resource balance, or a balance of primary expenditures, as the main

operational target for their fiscal rules.²³ Among resource-rich countries using non-resource balances or expenditures as the base for their fiscal rules are Ecuador, Mongolia, the Russian Federation, and Timor-Leste. The non-resource balance could also be adjusted for the non-resource output cycle if the country has adequate technical capacity to reliably estimate non-resource output gaps and tax elasticities.

The calibration (choice of a specific numerical target) of non-resource-balance rules or expenditure-based rules needs to be informed by a number of considerations besides the expenditure smoothing objective, namely foreseeable macroeconomic impacts; the availability of financing; institutional spending capacity; and medium-to-long-term fiscal sustainability, taking into account the exhaustibility of nonrenewable natural resources.

Ideally, the macroeconomic implications of proposed non-resource-balance targets should be assessed using robust, empirically calibrated, dynamic general equilibrium models. However, the development and frequent updating of such models often exceeds the capacity of budgetary authorities in countries dependent on nonrenewable natural resources. In the absence of more rigorous techniques of analysis, it is all the more important that the authorities rely on prudence in assessing the risks generated by too rapid spending of resource revenues, in terms of pressures on aggregate demand and the exchange rate, and the quality and efficiency of the expenditures.

To minimize liquidity constraints, countries dependent on nonrenewable natural resources need to build adequate buffers by maintaining or restoring relatively low public debt levels, appropriately designing sovereign wealth funds or pools of liquidity to finance temporary deficits during resource price downswings, accessing contingent credit lines, and/or hedging against very large drops in the relevant resource prices. The appropriate mix of these approaches can be expected to vary from country to country, reflecting specific circumstances such as current debt levels, degree of access to capital markets, asset/liability management capacities, cost of hedging, etc. Chapter 6 discusses the range of issues relevant to the choice and design of sovereign wealth funds.

The adequacy of the overall liquidity buffer should be assessed through as thorough a risk analysis as possible in each country's context. A frequently used technique is value-at-risk analysis, which involves calculating the size of the buffer needed to ensure (with a specific high degree of confidence) the ability to finance overall deficits for a given period forward,

²³ See Baunsgaard et al. (2012), Ossowski (2013a, 2013b), and Ossowski and Halland (2016).

consistent with a chosen non-resource-balance target, under a range of price shock scenarios derived from historical patterns or stochastic simulations.²⁴ If this analysis signals that the liquidity buffer is insufficient, country authorities would need to take steps to increase it, if feasible, or to reduce or undershoot the fiscal target.

Relatively low debt levels are desirable not only from a short-term financing standpoint, as they facilitate market access at a more affordable cost, but more importantly from a longer-term fiscal sustainability standpoint. Therefore, the consistency of any proposed non-resource-balance targets with stabilization of the ratio of the public debt to GDP (or its progressive reduction to prudent levels) should be assessed through medium-term debt sustainability analysis under deterministic or stochastic stress-test scenarios along the lines recommended by the International Monetary Fund (IMF 2013b, 2013c).

There is broad consensus in the literature that, given the exhaustibility of nonrenewable natural resources, countries dependent on such revenues should consider expected developments in their natural resource wealth when shaping their fiscal policies. Views differ, however, on how to specifically do so.

Proponents of the traditional permanent income hypothesis have argued that, to ensure intergenerational equity, the declining resource wealth should be progressively replaced by commensurate financial wealth. This would require countries dependent on nonrenewable natural resources to set the target for the non-resource primary balance at a level consistent with the maintenance of the country's total net wealth (resource wealth plus net financial wealth) constant over the indefinite future.

Other scholars have challenged the permanent income hypothesis, arguing that, especially in capital-scarce and credit-constrained economies, it would be preferable to use part of the nonrenewable natural resources to build up the country's physical and human capital stock (Collier 2012; Van der Ploeg 2011, 2012). The additional investments would increase potential growth and the welfare of future generations, as well as future non-resource fiscal revenues. Clearly, this position is based on the crucial assumptions that the country in question has adequate absorption capacity for the additional investments, both in macroeconomic and public financial management terms, and that the additional growth is taxed appropriately, and the revenues are collected.

However, it needs to be emphasized that the assessment of resource wealth over the long term is fraught with uncertainties regarding not only

²⁴ See IMF (2012) for details.

the prices but also the speed of depletion of the resources, including on account of technical and economic obsolescence (e.g., due to the development of new, more environmentally friendly or lower-cost energy sources). For this reason, and because both intergenerational equity concerns and absorptive capacity vary across countries and over time, it would appear undesirable to rigidly link the choice of the operational fiscal target to the estimated resource wealth, as advocated by the permanent income hypothesis. Indeed, no country does so at the present time.²⁵

Nevertheless, authorities in countries dependent on nonrenewable natural resources should aim to include in their budget and MTFE documentation their current best estimates of long-term prospects for both resource and non-resource wealth under alternative, transparently detailed scenarios that outline the respective main fiscal and nonfiscal determinants. Doing so would allow domestic and foreign economic agents to better assess the long-term implications of a proposed fiscal policy stance and press for corrections, if needed. Ongoing efforts supported by international financial institutions and other development partners to compile comprehensive government balance sheets in many countries (including some that are dependent on nonrenewable natural resources) are a key first step in this direction.²⁶

5.1.4. *Empirical Evidence on the Effectiveness of Fiscal Rules*

Following the largely theoretical discussion in the previous section of the design and implementation of fiscal rules in different types of countries, this section briefly reviews available empirical evidence on their effectiveness in promoting more sustainable and stable conduct of fiscal policy.

An analysis of the IMF's fiscal rules database shows that on average countries adopting one or more fiscal rules tend to have lower deficits and public debt than those that do not. However, such average correlation cannot be taken as a proof of causality in the relation between rules and outcomes, since both could reflect other factors, in particular a societal preference for fiscal prudence (Poterba 1996). Empirical analyses of

²⁵ Norway uses a variant of the permanent income hypothesis approach that addresses some of the difficulties associated with it. Specifically, its fiscal guideline limits the central government's non-oil deficit to a level equivalent to the long-run real rate of return on the assets held by its sovereign wealth fund. See Ossowski and Halland (2016) for details.

²⁶ See in particular the IMF's database on selected countries' balance sheets (available at <http://data.imf.org/psbs>).

causality that have tried to address this bias have so far failed to find a statistically significant impact of rules on outcomes for their (more or less broad) samples of countries (Eyraud, Debrun, et al. 2018).

Those studies did not, however, attempt to test whether the effectiveness of rules depends on their design features and/or on the strength of their implementation. To address this question, various international institutions (including the European Commission, the OECD, and the IMF) have in recent years constructed composite indices of the strength of fiscal rules and utilized them to analyze their effects on fiscal outcomes (at the national or subnational level of government).²⁷

In particular, the IMF index ranks different types of rules in 96 countries on the basis of four main criteria: the rule's legal basis, coverage, enforcement mechanisms, and supporting institutions (MTFFs, fiscal responsibility laws, and independent fiscal watchdogs). A recent empirical analysis utilizing the index suggests that moving from a relatively poorly designed fiscal rule to a better-designed one can improve the fiscal balance by some 0.6 percent of GDP (Caselli and Reynaud 2019). Evidence for European countries also suggests that stronger rules are associated with lower deficits, even after correcting for selection bias.²⁸

Other studies have focused on whether fiscal rules have a positive impact on macroeconomic stability. Earlier studies found some evidence that rules based on unadjusted budget balances contribute to procyclical fiscal behavior by subnational governments.²⁹ At the national level, various studies of advanced economies have found empirical evidence that the inclusion of flexibility elements in the design of fiscal rules helps avoid procyclicality in fiscal policies. However, Bova, Carcenac, and Guerguil (2014) found that the increased use of fiscal rules has not in general shielded emerging and developing economies from procyclicality. The authors also found evidence, however, that some features of "second-generation"

²⁷ Specifically, the European Commission index of the strength of fiscal rules is a composite index that aggregates (using random weights) five indicators: (1) the statutory base of the rule, (2) the flexibility of the targets, (3) the nature of the bodies in charge of monitoring and enforcing the rule, (4) the mechanisms of enforcement, and (5) the media visibility of the rule. The OECD index rates subnational fiscal rules on the basis of four main criteria: (1) restraining growth of the public sector, (2) promoting allocative efficiency, (3) ensuring debt sustainability, and (4) promoting resilience to exogenous shocks. See European Commission (2019) and Blochliger (2012) for details.

²⁸ See Debrun et al. (2008), Afonso and Hauptmeier (2009), and Bergman, Hutchison, and Hougaard Jensen (2016).

²⁹ See Poterba (1994), Bohn and Inman (1996), Fatas and Mihov (2006), and Blochliger (2012).

rules—such as the use of cyclically adjusted targets, well-defined escape clauses, and stronger legal and enforcement arrangements—may be associated with less procyclicality. More recently, Ardanaz et al. (2020) show that in countries with either no fiscal rule or with a rigid fiscal rule, a fiscal consolidation of at least 2 percent of GDP is associated with an average 10 percent reduction in investment. However, under flexible “second-generation” fiscal rules, the negative effect of fiscal adjustment on public investment vanishes even after controlling for possible endogeneity, thereby reducing procyclicality in public investments.

Empirical evidence on the impact of rules on fiscal policy in resource-rich countries is mixed. In some that have adopted fiscal rules (e.g., Chile and Norway), fiscal management has been prudent, and has contributed to the accumulation of significant fiscal buffers and long-term savings. In other resource-rich countries, rigid fiscal rules were flaunted or outright repealed when they came under stress during downturns in commodity prices. Success or failure of the rules appears to have much to do with the strength of the overall institutional fiscal framework, and more generally to societal preferences for fiscal discipline.

Rigorous econometric evidence of the effectiveness of rules in countries dependent on nonrenewable natural resources is limited. A study of oil-exporting countries found that fiscal rules and resource funds do not have a statistically significant impact on the non-resource balance, expenditure dynamics, or the correlation between oil revenues and public expenditures (Ossowski et al. 2008). Another study found that fiscal rules in such countries have had limited success in reducing the rate of growth of current spending during booms but may have contributed to significant reductions in capital expenditure during periods of falling oil prices (Arezki and Ismail 2010). A more recent study of resource-rich countries found that fiscal rules and resource funds have not reduced the procyclicality of government expenditure on average, but countries with better-quality fiscal institutions have shown less procyclicality than the average (Bova, Medas, and Poghosyan 2016).

5.1.5. International Experience with Independent Fiscal Councils

There is growing consensus, both in the literature and in international practice, that independent fiscal “watchdogs” can play a useful role in promoting responsible and sustainable fiscal policies by subjecting the conduct of such policies to technical analysis free of political bias and by publicly reporting the results of such analyses.

Such institutions have existed for decades, and some of them (such as the Dutch Central Planning Bureau, the Belgian High Council of Finance,

and the U.S. Congressional Budget Office) have acquired a strong reputation for nonpartisanship, technical quality, and effectiveness in carrying out their respective mandates.

The number of independent fiscal watchdogs has increased in recent years as governments worldwide have increasingly focused on the need for sustained fiscal consolidation. This is in light of the rapid rise of public debt after the global financial crisis and the fiscal challenges posed by aging populations.

International institutions, including the EU, IMF, and the OECD, have supported the creation of such watchdogs (referred to here as “independent fiscal councils”) as potentially useful complements to fiscal rules and fiscal transparency in promoting fiscal consolidation and increasing governments’ accountability to their electorates. The institutions have sought to outline some general principles for effective operation of such councils.

The OECD formally adopted a set of Principles for Independent Fiscal Institutions in 2014 that calls for broad national ownership of the creation of an independent fiscal council; its nonpartisanship and operational independence (particularly in the selection of its leadership based on merit and technical competence); clear specification in higher-level legislation of the scope of its mandate, with adequate budgetary resources to carry it out; and full access to the information needed for that purpose.³⁰

In the aftermath of the 2010 euro crisis, the EU, in its 2011 Directive on Requirements for National Budgetary Frameworks, stated that the monitoring of member states’ compliance with the revised Stability and Growth Pact “should be carried out by independent bodies, or bodies endowed with functional autonomy vis-à-vis the fiscal authorities of the Member States.” Subsequently, the European Commission set out detailed rules for EU members on the status and tasks of such monitoring (European Commission 2014). The commission is currently preparing an even more detailed directive setting out the required characteristics of fiscal councils in its member states.

According to an IMF database, there are currently some 40 institutions worldwide that fulfill the criteria of autonomy, scope of remit, and visibility deemed as *de minimis* necessary to qualify as independent fiscal councils.³¹ Two-thirds of them were created after 2007 (one-third after 2013), and two-thirds are in European countries. In Latin America, Brazil, Chile, Colombia, and Peru have created independent fiscal councils over the last five or so years.

³⁰ OECD (2014). See also Von Trapp, Lienert, and Werner (2016) and Von Trapp and Nicol (2016).

³¹ The dataset is described in Debrun and Kindia (2014). See also IMF (2013a).

An analysis of the characteristics of these institutions shows significant variations across countries—that is, there is no one-size-fits-all model as concerns their nature (e.g., stand-alone or affiliated with a national institution, scope of mandate, structure and appointment procedures, and external communication practices). In particular:

- Most independent fiscal councils are attached to a national institution. Most are attached to Parliament or Congress (e.g., in Australia, Canada, Italy, South Africa, South Korea, and the United States); some to the executive (e.g., in Belgium, Denmark, Japan, the Netherlands, and the United Kingdom); two to the Supreme Audit Institution (in Finland and France); and one to the Central Bank (in Austria). However, several independent fiscal councils (e.g., in Germany, Ireland, Portugal, Spain, Sweden, and some Eastern European countries) are of a stand-alone type. The different models mainly reflect institutional and socio-political characteristics of the country, and there is no rigorous evidence to date that one model is more effective than the others, provided that adequate guarantees of nonpartisanship and operational autonomy of the councils are in place.
- The mandate of independent fiscal councils also varies considerably across countries. All carry out technical analyses of fiscal developments and prospects for their respective countries, but the scope and nature of their responsibilities vary significantly (Beetsma, Debrun, and Sloof 2017; Beetsma et al. 2018). Specifically, the most common responsibilities of independent fiscal councils are to prepare or assess macroeconomic forecasts and fiscal projections in the annual budget and medium-term scenarios, and to monitor countries' compliance with national or supranational fiscal rules. Most independent fiscal councils also analyze long-term fiscal sustainability and provide advice (recommendations) on fiscal issues. Only a few (mostly longer-established) councils are tasked with the costing of individual budget measures or programs, given the resource-intensive nature of such responsibility.³² It should be noted that the more recent councils (mainly European ones created under pressure from EU institutions) tend to have stronger roles in the budget process and in the monitoring of fiscal rules.
- Independent fiscal councils use a range of channels to influence fiscal outcomes. All publish periodic reports on their activities, in

³² The Dutch and Australian independent fiscal councils also do a costing of parties' electoral programs.

particular their assessments of proposed budgets and government reports on budget execution. Most also engage actively with the media, and several (especially the longer-established ones) have significant resonance in informing public opinion. Some also hold regular formal consultations with the government or hearings in Parliament to explain the results of their analysis. Fewer can issue binding opinions on forecasts, although some of the recent councils are entitled to receive a formal public explanation from governments that do not comply with the council's recommendations (the so-called "Comply or Explain" provision).

- Independence from partisan politics, operational autonomy (including adequate resourcing), and timely access to relevant information are essential for the effectiveness of independent fiscal councils. An analysis of the IMF's database suggests that the share of councils enjoying strong legal safeguards of independence (including in particular appointments based on technical competence and fixed-term mandates for the leadership, and autonomy in the recruitment of staff), budgetary adequacy, and unfettered access to information is higher for more recently established independent fiscal councils than for "veteran" ones. The latter tend to rely more on established track records of nonpartisanship and high technical quality, and also to be better staffed to carry out their functions—advantages that are likely to diminish over time as the more recently established independent fiscal councils build up their records and their staff.

Assessing the effectiveness of independent fiscal councils is complicated by both the heterogeneity of their mandates and the fact that most of them have a rather short track record. An assessment based on a country's fiscal outcomes (e.g., the development of fiscal balances and debt) would not be appropriate, because these outcomes reflect many factors outside the control of an independent fiscal council. Therefore, recent attempts to evaluate the effectiveness of the councils have focused on measuring their impact on the accuracy of countries' economic and budgetary forecasts, on the one hand, and the degree of compliance with applicable fiscal rules, on the other.

A recent empirical analysis of these two questions by Beetsma et al. (2018) suggests that fiscal forecast errors tend to be lower in countries where such forecasts are subject to scrutiny by an independent fiscal council or are based on macroeconomic projections prepared by them. Also, the presence of an independent fiscal council in a country tends to be positively associated with smaller compliance gaps (differences between

actual and targeted values) for balance-based and expenditure-based rules, but not for debt-based ones (possibly reflecting the greater susceptibility of debt stocks to exogenous shocks).

Further empirical analysis is clearly needed—and will become increasingly feasible as the number, variety, and experience of independent fiscal councils increase—to assess how the councils’ effectiveness relates to their key institutional characteristics, in particular their degree of autonomy, breadth of mandate, channels of influence, and availability of resources and information.

5.2. Lessons for Caribbean Countries

This section briefly reviews the existing fiscal framework in the six Caribbean countries that are the focus of this volume and makes suggestions for improvements drawing on the lessons from theory and international experiences discussed earlier.

5.2.1. *The Bahamas*

Background

Following nearly a decade of sizable fiscal deficits, averaging –1.28 percent of GDP between FY2009/10 and FY2019/20 and leading to an escalation of general government debt to 66 percent of GDP in FY2019/20,³³ the Bahamian government began a consolidation effort in 2018 (partly aided by the unwinding of extraordinary hurricane-related expenditures in the previous year). Recognizing the urgent need to strengthen the institutional fiscal framework in order to ensure that the adjustment would be sustained over the medium term, the government secured parliamentary approval in November 2018 of a comprehensive Fiscal Responsibility Act (FRA).³⁴

The FRA introduces some numerical fiscal rules,³⁵ strengthens transparency requirements, and mandates the creation of an independent fiscal council. Specifically, the act sets a ceiling of 0.5 percent of GDP on the

³³ Per the World Economic Outlook Database October 2020. The fiscal year in The Bahamas runs from July 1st to June 30th. The debt-to-GDP ratio excludes contingent liabilities.

³⁴ The full text of the FRA can be accessed at [https://www.bahamas.gov.bs/wps/wcm/connect/06312d25-4376-4e49-bf99-162f7997426c/Fiscal+Responsibility+Bill%2C+2018.pdf?MOD=AJPERES#:~:text=7.-,Fiscal%20responsibility%20principles.,c\)%20prudently%20managing%20fiscal%20risks.](https://www.bahamas.gov.bs/wps/wcm/connect/06312d25-4376-4e49-bf99-162f7997426c/Fiscal+Responsibility+Bill%2C+2018.pdf?MOD=AJPERES#:~:text=7.-,Fiscal%20responsibility%20principles.,c)%20prudently%20managing%20fiscal%20risks.)

³⁵ While the responsibility principles enshrined in the FRA apply to the entire public sector, the numerical rules appear to apply only to the central government.

overall fiscal deficit from FY2020/2021 onward, with transitional ceilings of 1.8 percent and 1 percent of GDP in FY2018/2019 and FY2019/2020, respectively.³⁶ It also includes an expenditure rule stipulating that, once the deficit has stabilized at the equivalent of 0.5 percent of GDP, the growth of total expenditures should not exceed the long-term growth of nominal GDP.

Prior to the COVID-19 crisis, the IMF considered these targets consistent with the eventual stabilization of the ratio of central government debt to GDP at around 50 percent, and with the accumulation of a liquidity buffer for the fiscal cost of natural disasters on the order of 2–4 percent of GDP through annual transfers of 0.5 percent of GDP to a disaster relief fund (IMF 2018a). The FRA sets a long-term ceiling of 50 percent of GDP for the debt but leaves it to the government to specify the year when it would be achieved. In its 2018 Fiscal Strategy Report (FSR), the government indicated FY2024/2025 as the target year for the stabilization of the debt at around 50 percent of GDP. The 2019 FSR was the second to be submitted to Cabinet under the FRA. In the 2019 FSR, considering the effect of Hurricane Dorian, the timeline to achieve the debt anchor was lengthened.

As elements of flexibility, the FRA allows a compliance margin equivalent to 0.5 percent of GDP for the deficit ceiling. It also includes an escape clause for “significant economic downturns, national security considerations, and natural disasters,” and requires that a government invoking the clause explain to Parliament the reason for its activation, the proposed actions, and a time frame to return to compliance with the rule.

Sanctions for noncompliance with the rules are mainly reputational, namely a requirement for the Minister of Finance to appear in Parliament to explain the reasons for the noncompliance and propose an adjustment program to correct it. But the act also envisages the possibility of administrative sanctions on responsible officials for serious violations of the act’s transparency and procedural requirements.

The FRA requires the preparation of a number of reports that include discussion with the independent fiscal council, submission to Parliament, and simultaneous publication. The reports include:

- A Fiscal Strategy Report (FSR) in November of each year setting out a fairly detailed MTFE for the subsequent three years, with specification of the underlying macroeconomic assumptions and major policy intentions. The budget for the first year must conform

³⁶ The fiscal year in The Bahamas runs from July of the current calendar year to June of the subsequent year.

to the FSR. The projections for the two subsequent years can be revised in subsequent FSRs. The FSR must also contain detailed explanations for any deviation of the outcomes from the budget for the preceding fiscal year.

- A mid-year review in February to update the projections for the current fiscal year considering developments to date.
- A pre-election update during election years.

The FRA also requires the inclusion in the FSRs of an analysis of major fiscal risks and contingent liabilities, “quantified to the extent possible.”

Finally, and importantly, the FRA mandated the creation of an independent fiscal council, the Fiscal Responsibility Council. The council was appointed by the Governor General on proposal by the Speaker of the House in 2019. It is to consist of five members with appropriate qualifications in law, business, economics, accounting, and finance, as set out by relevant public and private institutions. The members have staggered fixed terms of up to three years, renewable. The chair of the council is nominated by the Prime Minister, in consultation with the leader of the opposition. Council members can be dismissed by the speaker if, after a review of their performance, the speaker considers them unsuited to the position.

The main responsibility of the council is to review, assess, and report to Parliament and the public at large on the fiscal strategy and budgetary documents mentioned above, as well as on the audited annual accounts of the government, and on any adjustment plans proposed by the government to correct deviations from the rules. Parliament may appoint select committees to consider the council’s reports but is not required to do so.

The FRA mandates that the council should have unfettered access to government information required to meet its responsibilities. The government can issue regulations to guide the operating procedures of the council. The council can recruit contractual staff to assist it in its work. Its proposed annual budget is to be submitted to the speaker for review, approval, and inclusion in the government budget.

Comments

The FRA undoubtedly represents a major step in strengthening the fiscal framework in The Bahamas. It has many features that accord with the lessons from theory and international experience highlighted in this chapter. Nevertheless, it could benefit from some further improvements, as detailed below.

First, as regards the 50 percent of GDP debt ceiling, it must be recognized that the adverse impact of COVID-19 on the public finances makes its attainment in the next few years very difficult. In its latest (October 2020) Regional Economic Outlook, the IMF projects the debt to rise sharply from around 59 percent of GDP at the end of 2019 to 82 percent of GDP by end-2021. A part of this increase reflects the operation of automatic stabilizers and exceptional COVID-19-related spending, which will unwind over time.

Several reasons argue for not changing the debt target, in particular The Bahamas' exposure to significant risks, including weather-related natural disasters, which have occurred with relatively high and increasing frequency in recent years; increases in international prices of key commodity imports; needs to support SOEs in financial difficulties; and the longer-term costs associated with a fairly rapid aging of the population. There is however a clear case for significantly lengthening the period of convergence to the ceiling. Decisions about the specific timing and path of convergence should probably be postponed to later in 2021, when hopefully the course of the pandemic will become clearer not only in The Bahamas but also in the countries from which most of its tourism originates.

Second, there appears to be a clear need to strengthen the analysis of fiscal risks. The first FSR subsequent to the promulgation of the act contains only a very basic version of such analysis. Only contingent liabilities stemming from explicit guarantees to SOEs are quantified, and no explanation is provided on the methodology to arrive at these estimates.³⁷ Also, no detail is provided on the criteria for granting such guarantees and on the mitigation strategy for the risks connected with them.

As regards macroeconomic and other risks affecting the budgetary projections, the FSR includes a heat map of their severity (combining qualitative assessments of the degree of probability of their realization and the seriousness of their impact) and only rather general indications of proposed mitigation strategies. As indicated above, it would be desirable to significantly expand this analysis in future FSRs, possibly beginning with some rules-of-thumb quantification of the sensitivity of key fiscal aggregates to macroeconomic risks (deviations of GDP growth, inflation, and interest rates from the assumptions in the budget), and progressively moving on to fuller deterministic, and eventually probabilistic, stress-test scenarios, along the lines recommended by the IMF (2016). It would also

³⁷ It is not clear whether the estimates refer to the maximum or the expected value of the guarantee, and in the latter case what is the projected probability of their realization.

be highly desirable to expand the discussion of proposed mitigation strategies by describing the specific actions envisaged and the expected timing of their implementation.

The FRA provides substantial flexibility to the government in its fiscal conduct, in addition to the 0.5 percent of GDP annual compliance margin. The escape clause does not include quantitative thresholds (in terms of the severity of economic downturns or natural disasters) for its activation by the government. Moreover, the FRA does not set any specific guidelines on the time profile of the correction program to be presented by the government to Parliament following the use of the escape clause or other deviations from the numerical rules. This latitude is not in line with best international practices. While it may be justified in the current initial phase of adoption of the rules, it would be desirable to set more specific requirements for the activation of the escape clause and for the correction of deviations from the rules, at the latest during the first review of the FRA.

As regards the Fiscal Responsibility Council, its creation is commendable, but it will only be possible to assess its effectiveness after a few years of operation. A review of the provisions of the FRA points to the following considerations:

- The council's mandated focus on reviewing the key budgetary policy documents is appropriate, especially in its initial phase. An expansion of responsibilities (e.g., preparation of macroeconomic forecasts for the budget, or costing of proposed legislation) would need to be accompanied by a commensurate expansion of human and budgetary resources.
- The procedures for nomination of the council's members appear sound, but for the effectiveness of the council, it would be important that the Speaker of the House make his or her selection of potential candidates on the basis of professional competence and political nonpartisanship.
- The criteria for dismissal of nonperforming members seem too broad and could hinder candor in the assessment of budget proposals.
- The regulations implementing the council should set out in detail how the council's access to the information required to perform its functions would be ensured (including the time allowed to meet the request, and sanctions for noncomplying government officials).
- It would also be desirable to provide stability to the council's budget to further safeguard its independence and willingness to "speak truth to power."

- Finally, to increase the visibility and traction of the council's assessments and advice, it would be preferable to require that they be routinely discussed by Parliament or at least by its Budget Committee, and that the government explain to Parliament the reasons for any disagreement with the assessments.

5.2.2. *Barbados*

Background

Following the global financial crisis of 2008–2009, the Barbadian economy experienced a decade of stagnation and widening external and fiscal imbalances. Growth was negative (-0.4 percent) on average over 2008–2018, reflecting deep-seated structural weaknesses and lack of competitiveness, and the current account deficit averaged 6.8 percent of GDP during the same period. As a result, international reserves fell to the equivalent of less than six weeks of imports by end-2017, and Barbados experienced repeated sovereign rating downgrades.

The public finances also deteriorated, reflecting pervasive weaknesses, in particular slow growth of the revenue base and its erosion by widespread tax concessions, inadequacies in the tax and customs administrations, large transfers to loss-making SOEs (7.5 percent of GDP), and a relatively high public wage bill (8 percent of GDP). The primary balance of the general government was in deficit, averaging -0.3 percent of GDP a year during most of 2008–2018, and the overall deficit averaged a whopping 6.7 percent of GDP a year over the same period. As a result, government debt (including guarantees and domestic arrears) rose to a clearly unsustainable 158 percent of GDP by 2017, forcing a partial default on its external component in mid-2018.

The government that took office in 2018 embarked on a major fiscal consolidation effort, supported by a four-year arrangement under the IMF's Extended Fund Facility, and accompanied by substantial restructuring of the public debt.³⁸ The effort included several short-term revenue-enhancing

³⁸ The restructuring aims to extend the maturity of the debt by up to 35 years and to achieve a substantial reduction of the interest bill (which had reached 7.5 percent of GDP in FY2017/2018). It includes exchanges of debt held by the Central Bank of Barbados, the National Insurance Scheme, the domestic financial system, and external creditors. To date, the domestic component of the debt has been restructured, but the external component is still under negotiation. The new debt instruments would include a hurricane clause allowing the capitalization of interest and deferral of scheduled amortizations falling due over a two-year period following the occurrence of a major natural disaster (see IMF 2018b for details).

measures and a commitment to a subsequent comprehensive review and reform of the tax system, as well as steps to modernize and strengthen the tax and customs administrations. On the expenditure side, the consolidation effort centered on reducing transfers to SOEs through divestment of several of them and a comprehensive reform of the remaining ones, and on a gradual reduction of the public wage bill, mainly through attrition. The program also included measures to support vulnerable groups affected by the fiscal retrenchment, and steps to increase the efficiency of spending and modernize public financial management, with financial and technical support from the Inter-American Development Bank.³⁹

As a result of these efforts, the primary fiscal surplus rose to over 6 percent of GDP in 2019, and the public debt declined substantially, to 122 percent of GDP by end-2019. However, progress was halted and partially reversed by the impact of the COVID-19 pandemic. The primary surplus is expected to decline to 1 percent of GDP in 2020, and the debt to climb back to over 134 percent of GDP by the end of the year, before beginning to decline again in 2021 to close to its pre-pandemic level.

The Barbadian authorities recognize that sustaining the fiscal consolidation effort over several years requires not only appropriate policies, but also a substantial strengthening of fiscal institutions. The updated Financial Management and Audit Act (FMA) enacted in early 2019 constitutes an important step in this direction. The FMA defines the roles and responsibilities of various entities involved in the management of public funds; sets out more orderly and transparent procedures for budget preparation and execution, accounting, reporting, and auditing; and revamps the governance of SOEs. A detailed examination of the act is beyond the scope of this chapter, but its salient features are briefly summarized below.

The FMA does not include a numerical fiscal rule. In the initial Memorandum of Understanding for the Extended Fund Facility the authorities indicated their intention to introduce by mid-2020 an overall balance-based rule, with the target calibrated to achieve a reduction of public debt to the equivalent of 60 percent of GDP by FY2033/2034. The rule would have broad coverage and include an escape clause and automatic correction mechanism and would be designed with technical support from the IMF. However, the timetable for the design and introduction of the rule has been shifted forward due to the COVID-19 pandemic.

The FMA mandates the annual preparation of a rolling MTFE specifying for the subsequent three fiscal years targets for the main fiscal

³⁹ See IMF (2018b) for details.

aggregates.⁴⁰ This will be consistent with the fiscal responsibility principles of achieving and maintaining a prudent level of public debt; managing fiscal risks in a prudent manner; and pursuing macroeconomic stability, inclusive growth, and intergenerational equity.

Each MTFF is to guide the preparation of the budget for the first year and, on a more indicative basis, those of the following two years. Successive MTFFs should contain a transparent explanation for changes in the targets from those included in the preceding one, as well as for any deviations of the fiscal outturn from the targets for the latter. The MTFF should be accompanied by a fiscal risk statement, discussing and quantifying to the extent possible contingent liabilities and risks from other exogenous shocks. The MTFF is to be discussed by Parliament, and the Minister of Finance must provide a formal response to the comments received but is not obliged to amend the MTFF accordingly.

The FMA includes a broadly specified escape clause allowing deviations from targets due to “significant unforeseeable events that cannot be accommodated through the use of other measures provided for in the Act or prudent fiscal policy adjustments.”

The act also includes several provisions (such as frequent and detailed reporting requirements, and the need to seek government authorization for borrowing) to strengthen the control of the Ministry of Finance, Economic Affairs and Investment over SOEs. It does not include specific criteria/financial indicators to guide the ministry’s decisions on authorizing new SOE borrowing.

In addition to the FMA, the Barbadian government has prepared legislation to improve other aspects of public financial management, including procurement, fiscal statistics, and the management of the public debt. The procurement bill has already been approved by Parliament, and the other proposals are under public discussion. Steps have also been taken to strengthen the Integrated Financial Management Information System (IFMIS).

Comments

The fiscal consolidation effort by the Barbadian government is relatively recent, and it is therefore difficult to assess at this point its ultimate effectiveness. The initial steps in terms of policy measures and institutional reforms in the PFM area have been very significant and, as indicated above, have led to a

⁴⁰ Specifically, the MTFF should include projections of the main categories of government revenues and expenditures, fiscal balances, financing, and public debt, as well as the key macroeconomic assumptions underlying the projections.

substantial improvement in the fiscal performance through 2019. The progress has been, however, partly reversed by the impact of COVID-19. Moreover, little, if any, progress has been made towards the adoption of a numerical fiscal rule, and in the preparation and publication of the MTFs called for by the FMA.

The FMA provides ample latitude to the government both in revising the MTF from year to year and in invoking the escape clause. The latter, in particular, is not in line with good international practices, as it does not set out clear parameters for the magnitude of the shock that would justify its activation and for the path for correction of the deviation from the targets.

The government's intention to introduce a numerical budget rule anchored on debt targets remains appropriate, since the consolidation effort will need to be sustained over many years to reduce debt to levels more in line with emerging market averages. It would be desirable for the authorities to also consider adopting, together with the rule, an independent fiscal council consisting of a small number of experienced specialists in economic, financial, and relevant legal matters to monitor implementation of the rule, as is increasingly being done in other reform-oriented Caribbean countries, such as The Bahamas and Jamaica.

5.2.3. *Guyana*

Background

Guyana's macroeconomic and fiscal prospects over the medium to long term have significantly changed since the discovery of substantial offshore oil reserves. Through September 2020, ExxonMobil announced three new oil discoveries in the year, increasing the total number of discoveries to 18 since 2015. Considering the latest discoveries, ExxonMobil claims to have the potential to produce at least 750,000 barrels per day by 2025/2026. Recoverable oil reserves are currently estimated at more than 8 billion barrels of oil. This places Guyana near the top of the league in terms of recoverable petroleum reserves per capita. Moreover, there is upside potential to these projections, as exploration of new oil and gas fields may begin in the near future.

Reflecting the impact of the oil discoveries, GDP is projected to accelerate strongly over the medium and longer term. In its latest Regional Economic Outlook, the IMF projects a cumulative growth of GDP of over 36 percent during 2020-21. It also forecasts inflation to remain subdued and the current account deficit to be halved from 33 percent of GDP in 2019 to 16 percent in 2021.

The oil discoveries also hold the promise to improve Guyana's fiscal performance, if prudent policies are pursued. The projected increase

in oil revenues, together with the strong GDP growth, is expected to facilitate a progressive decline of the gross public debt (estimated at around 43 percent of GDP in 2018) to under 35 percent of GDP by 2021, as well as the accumulation of substantial financial assets in the recently constituted Natural Resource Fund, which is discussed in detail in Chapter 6.

Guyana's public finances suffer from significant long-standing institutional weaknesses, which the authorities have recently begun to address with support from multilateral partners, including the IDB, IMF, World Bank, and Caribbean Development Bank, as well as bilateral donors. Of particular importance from the macro-fiscal perspective are weaknesses in the public financial management and public investment management systems. These include the lack of:

- A formal MTFF;
- National and sectoral planning;
- Standardized systems for the preparation, selection, monitoring, and evaluation of public investment projects;
- Adequate procurement regulation;
- A sound legal framework and capacity for management of PPPs;⁴¹ and
- Comprehensive and timely monitoring and transparency of the finances of SOEs.

Comments

Ensuring sound management of Guyana's prospective oil bonanza is likely to pose a significant challenge, given the social and political pressures to spend that such unexpected wealth will inevitably generate. As the history of many oil producers shows, excessive spending in the wake of oil discoveries leads to inflationary pressures, future rigidities in the budget, and/or wasteful investment projects, especially when institutions for management of the budget and public investments are weak.

To counteract such pressures, Guyana would be well advised to quickly adopt an expenditure rule. This could be done by capping the real rate of growth of primary expenditures of the central government at a level somewhat lower than that of real GDP. The differential could be set higher for

⁴¹ In 2018, the government issued a policy framework document for PPPs, but this has not been translated into specific legal proposals.

the next five years, when GDP growth is projected to accelerate sharply, and reviewed and reduced thereafter as GDP growth decelerates to its longer-term average.

To ensure that an adequate share of the additional spending goes to public investments, a ceiling could also be set on the ratio of current to total primary spending. This should be accompanied by a deliberate effort to ensure that the main weaknesses in the public investment management system mentioned above are corrected in the near term, and that Guyana's scores on the IMF's public investment management assessment rise to at least the average level of comparator countries, which they now lag by a significant margin in most areas. Such a sub-ceiling should also be accompanied by a strengthening of accounting regulations to avoid misclassifications of current spending as investment.

The expenditure rule should be accompanied by adoption of a target path for public debt through the next decade, consistent with the elimination of the primary deficit over the next two to three years and growing surpluses thereafter. The debt could be specified as net of assets accumulated in the Natural Resource Fund if the current rigid and complicated rules for deposits into and withdrawals from that fund were made flexible. This would facilitate appropriate asset-liability management.

As soon as possible, the government should implement its intention, as stated in the Green State Development Strategy, to develop an MTF. A rolling (at least four-year-forward) MTF, consistent with the expenditure rule, would facilitate assessment of the prospects of achieving the target debt path under prudent and relevant macroeconomic, external, and policy assumptions. The robustness of these assumptions should be tested through appropriate sensitivity and scenario analysis. The reasons for year-to-year changes in the MTF should be explained in the corresponding budget documents, as should be deviations of the fiscal balance outturn from its budgeted level. The government should be required to put forward specific proposals for corrections of those deviations if they exceed a reasonable threshold, within a time horizon of one to two years.

The MTF should be transparently presented and discussed in the annual budget document, and it would benefit from the review and comments of an independent fiscal council. It should be complemented by a detailed analysis of the finances of SOEs, both individually and on a consolidated basis, which would require significant strengthening of the current systems of monitoring and reporting SOE operations. It would also be important to develop a system of limits for SOE borrowing based on indicators of their debt servicing capacity and liquidity.

5.2.4. *Jamaica*

Background

Jamaica has undertaken a substantial and sustained fiscal adjustment effort, supported by the IMF and other international financial institutions, since 2012. The adjustment has involved revenue- and efficiency-enhancing tax reforms as well as initial steps to contain the growth of spending. As a result, the primary surplus of the central government rose to over 7 percent of GDP, the overall deficit was nearly eliminated, and gross public debt declined steadily from a peak of over 145 percent of GDP in 2012 to 94 percent of GDP by 2018.

The fiscal adjustment, along with prudent monetary policy and a more flexible exchange rate policy, has been instrumental in rebuilding confidence both domestically and externally. Prior to the COVID-19 pandemic, GDP growth accelerated to just under 2 percent in 2018 from very low rates in previous years, and unemployment began to decline, while inflation remained modest. International credit rating agencies significantly upgraded Jamaica.

Institutional improvements played a key role in sustaining the fiscal consolidation effort. The government took steps to strengthen the fiscal responsibility framework through amendments in 2014 to the Financial Administration and Audit (FAA) Act and the Public Bodies Management and Accountability (PBMA) Act. Together, these acts established procedural and numerical fiscal rules for the central government and the numerous public bodies that constitute what is known as the Jamaican “specified public sector.”

Specifically, the fiscal responsibility framework includes:

- A medium-term debt anchor—that is, the public debt of the specified public sector is to be steadily reduced to 60 percent of GDP by FY2025/2026 and maintained at or below that level thereafter.
- Limits on the stock of government guarantees relative to GDP (declining from 8 percent in FY2016/2017 to 3 percent by 2026/2027).
- A medium-term ceiling of 9 percent on the ratio of public wages to GDP.

The path of the overall fiscal balance must be set to ensure a progressive linear decline of the debt-to-GDP ratio towards the medium-term ceiling, and its maintenance thereafter. The government is required to present in its annual Fiscal Policy Paper rolling three-year budgetary

projections satisfying ex ante such requirement and specifying in significant detail the underlying macroeconomic and policy assumptions.

The framework includes both an escape clause and requirements for partial correction of ex post deviations from the targets. Specifically, the fiscal balance targets can be suspended for up to two financial years for natural disasters, national emergencies, a severe economic contraction, and/or a financial sector crisis that entail fiscal costs equivalent to at least 1.5 percent of GDP. The invocation of the escape clause by the Minister of Finance is subject to validation by the Auditor General.

Deviations from the targets must be recorded in a notional account, and the FAA stipulates that when they reach a cumulative level equivalent to 1.5 percent of GDP, but under 3 percent of GDP, they must be corrected by at least 0.75 percent of GDP during the subsequent year. If the deviations exceed 3 percent of GDP, the correction requirement rises to 1.5 percent of GDP.

The FAA also requires the Fiscal Policy Paper to include an Annex on Fiscal Risks. The 2019 paper presents a fairly comprehensive analysis of such risks, including a discussion of:

- The impact on key fiscal aggregates (tax revenues, interest payments, and the public debt) of deviations from the projections for real GDP growth, inflation, interest rates, the exchange rate, and oil prices (macroeconomic risks).
- The fiscal cost of natural disasters and mitigating measures (insurance mechanisms).
- Contingent liabilities related to pending wage settlements, judicial decisions, PPPs, and SOEs.

The analysis of risks from SOEs includes a heat map of vulnerabilities based on indicators of profitability, liquidity, leverage, and solvency for the 16 largest enterprises. The map displays a wide variance among SOEs, with some showing low or only moderate risk, but a few in clearly vulnerable positions. Since enactment of the PBMA in 2014, the government has substantially strengthened its monitoring of SOEs, including their observance of ceilings on the accumulation of payment arrears.

The structural reform agenda for SOEs includes divestment from some, mergers of some others, and a rationalization of remaining ones through measures tailored to each individual enterprise. According to recent IMF reports, there is still significant scope for improvement in this area, especially in terms of strengthening and making more transparent the governance of SOEs (IMF 2019).

Jamaica has not escaped the economic blow from the COVID-19 pandemic. According to the IMF, real GDP growth is expected to be sharply negative in 2020, before rebounding in 2021; GDP is projected to remain in 2021 well below its 2019 level. The primary surplus would be halved in 2020, and the public debt would rise to over 100 percent of GDP again by the end of the year, before resuming a declining path in 2021.

Comments

Jamaica's fiscal framework largely conforms to the main lessons from theory and international experience discussed above. In particular, it includes a medium-term debt anchor, with a feasible path for its achievement; operational targets for the overall balance; and a medium-term ceiling on the largest category of current spending, namely public wages, which is in need of gradual retrenchment. It also includes clearly specified escape clauses and correction requirements. Importantly, the framework is supported by extensive procedural rules aimed at strengthening transparency and control of budgetary operations for both the government and public sector bodies, including through a fairly detailed risk analysis.

Nevertheless, the framework could be further improved in a number of ways. First, while the medium-term target for the public debt appears appropriately ambitious, it would be desirable to target its further reduction in the latter part of the current decade, to a level in line with the average for emerging markets. This is the case especially because Jamaica is exposed to substantial exogenous shocks, particularly natural disasters. A further gradual decline in the debt would be consistent with a smooth reduction in the primary surplus, thus avoiding risks of abrupt destabilizing fiscal expansion.

Second, the risk analysis currently does not take into account possible correlations among the various types of risks. These correlations should be explored empirically on the basis of past history, and stress-test scenarios should be constructed to explore the implications of the simultaneous occurrence of several correlated risks for the debt path. If the probability of realization of such scenarios were to appear high, it would be prudent to target higher primary (and overall) balances than those suggested by the deterministic formula currently used.

In addition, it would be desirable to strengthen the link between the risk analysis of SOEs and their access to borrowing by making their authorization to borrow from the Minister of Finance conditional upon achievement of minimum thresholds for indicators of profitability, liquidity, and solvency used in the risk heat map.

Finally, it would be highly desirable to move quickly with the adoption and implementation of an independent fiscal council, in line with lessons to date from international experiences with such councils. As discussed above, the council should be given the mandate to review the government's proposed fiscal strategy, the initial and any supplementary budget, and the reports on budget execution. It should also be given the mandate to assess those factors in light of the fiscal responsibility principles enshrined in the FAA. Its assessment should be tabled in Parliament simultaneously with the budget and other reports. If the council's mandate were to encompass the monitoring of SOE finances, it would require substantial additional resources.

Adequate guarantees of institutional and budgetary independence and access to relevant information would be essential for the effectiveness of the council, whatever its chosen affiliation. It may be more difficult to ensure such independence if the council is placed under the government's umbrella.

5.2.5. *Suriname*

Background

Over recent decades the Surinamese economy has been very volatile, alternating between pronounced cyclical booms and busts that mostly reflected developments in commodity cycles, but also procyclical domestic policies. The economy is highly dependent on exports of nonrenewable resources (oil, gold, and, until 2015, bauxite), which were hit hard by the sharp downturn in commodity prices in the middle of the 2010s. As a result, GDP contracted by more than 6 percent between 2014 and 2016, the unemployment rate rose to nearly 10 percent, and the currency depreciated sharply, fueling a temporary surge in inflation. The economy has slowly recovered from the crisis to date, and per capita GDP in real terms remains below its 2013 peak (IMF 2018c).

Fiscal policy has been highly procyclical. The real growth in central government expenditures outpaced that of revenues during the boom in commodity prices in the first half of the decade, leading to an increase in the deficit equivalent to 6 percentage points of GDP, to over 8.5 percent of GDP by 2014. The subsequent precipitous downfall in revenues forced a substantial cutback in real spending that aggravated the 2015–2016 recession. Nevertheless, the budget remained in large primary and overall deficits, and the ratio of the central government debt to GDP (no figures are available for the debt of the public sector as a whole) climbed to 82 percent of GDP by end-2019. The debt ratio increased to 109 percent

of GDP in June 2020. The IMF has projected that the debt ratio will further increase to 145 percent of GDP by the end of 2020 mostly due to a 90 percent devaluation in the exchange rate in September 2020 and a 13.1 percent decline in real GDP, in the wake of COVID-19.

Surinamese public finances suffer from a range of long-standing policy and institutional weaknesses. The ratio of non-resource taxes to GDP (at 12–13 percent) is relatively low in light of the country's level of per capita income. This reflects both flaws in the tax system design (notably, the absence of a value-added tax) and endemic shortcomings in tax administration and enforcement. Public wages and subsidies (especially for electricity) absorb a large share of spending. Available studies point to substantial scope for improving the effectiveness and efficiency of spending on education and health (Khadan 2018).

The public financial management system has traditionally suffered from extensive shortcomings, which the government has begun to address with the recent introduction in Parliament of new, improved legislation on public financial management and procurement, and through efforts to strengthen the management of public investments, including by creating a dedicated unit for this purpose within the Ministry of Finance.

The current fiscal framework does not pose the effective constraints on the conduct of fiscal policies that would be needed to safeguard fiscal sustainability and prevent procyclicality. There was a statutory limit of 60 percent of GDP for the central government debt, but in 2017 it was suspended as a result of an escape clause that allowed deficits of 6.5 percent of GDP in 2017 and 5 percent in 2018–2021. In November 2019, the government returned to the debt ceiling but this time increasing it to 95 percent of GDP.

The annual budget document includes a rolling four-year-forward MTFF, with limited disaggregation and little discussion of the underlying macroeconomic and policy assumptions. There is no significant analysis of risks affecting the projections in the MTFF, and no independent external scrutiny of it. Had such risk analysis been carried out during the final years of the resource boom, it would have revealed the mounting fiscal risks arising from the increasingly exposed fiscal position. A comparison of the projections for 2019–2020 between the 2018 and 2019 MTFFs points to upward revisions in revenues, but significantly more so in expenditures, and consequently in the deficit, for both years.

A Savings and Stabilization Fund (SSF) was approved for implementation by the national parliament in 2017, with the declared aims of cushioning the impact of revenue volatility on spending and ensuring that some of the benefits of resource wealth be passed on to future generations after those resources have been exhausted. However, given the very

stringent rules for withdrawals (discussed in detail in Chapter 6), the fund cannot be expected to act as a stabilization mechanism in the foreseeable future. Moreover, if the overall budget remains in deficit in the next few years, deposits into the SSF will be funded by adding to the already high, and expensive, public debt.

Comments

Despite some adjustment efforts in recent years, the outlook for public finances in Suriname remains a matter of serious concern. Central government debt is already very high, especially when taking into account that it does not include the debt of SOEs, for which no consolidated figures are available;⁴² that more than three-quarters of it is denominated in foreign currency, implying high vulnerability to exchange rate shocks; that it is very expensive;⁴³ and that the revenues to service it are subject to much higher-than-average volatility, even in the Caribbean region context.

Current estimates suggest that, in the absence of possible new offshore discoveries, oil production would taper off in the early 2030s, by which time current proven gold reserves may also be largely exhausted.⁴⁴ The relatively short time horizon for possible depletion of the country's nonrenewable natural resources increases the urgency to stabilize and then progressively reduce the debt to more sustainable levels.

For these reasons, it is highly recommended that the government officially adopt a target path for the debt, envisaging its early stabilization and then its (preferably linear) return to the 60 percent limit stipulated by the Debt Act within a realistic but clearly specified time horizon. While countries heavily dependent on resource revenues would typically be advised to target a non-resource primary deficit or expenditure to help decouple public finance from the vagaries of resource revenues, the overriding policy priority in Suriname is to bring down the debt from its high level. The possible procyclicality entailed by targeting the debt in cases of declining resource revenues is the inevitable consequence of previous fiscal

⁴² The national oil company has been borrowing abroad heavily. A 2018 loan exceeded the equivalent of 18 percent of GDP.

⁴³ The IMF estimated an average spread of Surinamese over U.S. bonds in excess of 650 basis points in 2018 (IMF 2018d).

⁴⁴ However, as of July 2020, the Apache Corporation and Total companies announced three "significant" oil discoveries off the coast of Suriname. The amounts are yet to be confirmed but Rystad Energy estimated that the recent oil discoveries could be about 1.4 billion barrels of oil equivalent resources, which could significantly increase the country's proven oil reserves currently estimated at 87 million barrels.

policies that left the public finances in a precarious position. Once the debt is brought down to safe levels and the non-resource fiscal position has strengthened, Suriname could consider switching to a non-resource primary balance target with a debt anchor.

The rolling four-year targets for the central government balance in the MTFs during the intervening period would be determined by the chosen path of the debt. The MTFs would specify the projected paths of revenues and expenditures consistent with the balance targets.

To ensure adequate reliability and credibility of the revenue and expenditure projections, the underlying macroeconomic and policy assumptions should be clearly detailed in the relevant budget documentation. Importantly, the projections should be prepared on the basis of a range of scenarios taking into account the main exogenous risks affecting them, notably resource revenues, and the correlations among such risks. In choosing the central scenario underlying the projections, the authorities should err on the side of prudence, and should transparently explain the reasons for their choice in the budget.

The creation of a small independent fiscal council, comprised of public finance experts, chosen on the basis of well-recognized technical competence and experience, and charged with reviewing and commenting on the projections, would help strengthen both the quality and credibility of those projections.

It would be important to include in the legal fiscal framework a requirement to correct within the subsequent one to two years any cumulative excess upward deviation of the debt from the targeted path that exceeded a given threshold value (e.g., 1 percent of GDP), along the lines included in the Jamaican legislation.

The authorities should intensify their ongoing efforts to improve public financial management systems, in order to allow for timely compilation and dissemination of comprehensive data on public finances, including those of the SOEs, which are an important source of fiscal risks for the government budget.⁴⁵

5.2.6. *Trinidad and Tobago*

Background

The economy of Trinidad and Tobago is the most dependent on hydrocarbon resources among those considered in this study. Petroleum and gas

⁴⁵ See Chapter 3 for specific recommendations on needed improvements to public financial management systems.

accounted for 30 percent of GDP and for 80 percent of exports on average during 2010–2017. Nonrenewable resources averaged 50 percent of total government revenues during the same period. However, oil production has been on a declining trend, and proven oil reserves are dwindling. Gas production, which is a multiple of oil production, is also expected to taper off over the medium to long term unless it is boosted by new offshore discoveries.

Given Trinidad and Tobago’s high dependence on hydrocarbons, it is not surprising that its economy and public finances were hit hard by the sharp decline in oil prices in the middle of the 2010s. Between 2014 and 2017, nonrenewable resource revenues fell by 70 percent, a decline equivalent to 11 percentage points of GDP, necessitating a substantial adjustment in expenditures. Despite the adjustment, the primary deficit rose to a peak of over 8 percent of GDP in 2017, before declining significantly in 2018–19. As a result, the nonfinancial public sector debt (which includes the debt of statutory public bodies and SOEs guaranteed by the central government) increased to over 65 percent of GDP in 2019. At the same time, however, the assets of Trinidad and Tobago’s Heritage and Stabilization Fund (HSF) (discussed in some detail in Chapter 6) rose to about 26 percent of GDP.

As in the rest of the Caribbean region, the macroeconomic and fiscal indicators have deteriorated sharply in 2020, reflecting the impact of the COVID-19 pandemic, with GDP falling by more than 5 percent and the primary deficit jumping to 11 percent of GDP (IMF projections).

The public finances of Trinidad and Tobago suffer from a number of long-standing policy and institutional weaknesses, including relatively weak tax administration, still-high transfers and subsidies to public utilities, and significant inefficiencies in social spending. Efforts are under way in some of these areas, as well as in tax reform, to address such weaknesses.

There are also significant weaknesses in the public financial management system that are discussed in further detail in Chapter 3. Of particular importance for fiscal sustainability are shortcomings in planning, budgeting, risk analysis, and transparency. Currently, there is no medium-term anchor to guide fiscal policy, although the 2019 budget document refers to a public-debt-to-GDP ratio of 65–70 percent as “sustainable.” The annual budget has traditionally not been presented within a multi-year framework, although the National Development Strategy 2016–2030 (Vision 2030) called for the development of such a framework in the near term. The 2019 budget included projections for a few macroeconomic and fiscal aggregates on average over 2018–2021.

No sensitivity analysis is published for the macroeconomic and fiscal forecasts presented in the annual budget, which also contains no systematic

risk analysis. The budget document does not include a comprehensive comparison of fiscal outturns with initial forecasts and explanations for the divergences, which are frequently significant. This is not surprising given the large share of highly volatile nonrenewable resources in total revenues. This fact and the lack of a transparent and detailed discussion of the reasons for the choice of the budget assumptions undermine their credibility.

Budget coverage is also limited, as no consolidated data are published on the finances of extra-budgetary units, local authorities, statutory public bodies, or SOEs, which represent a significant share of the public sector in Trinidad and Tobago.⁴⁶

Although Trinidad and Tobago's finances can be expected to be substantially affected by adverse longer-term trends—notably the gradual exhaustion of oil and gas wealth, the pension and health costs of an aging population, and the increasing frequency of natural disasters caused by climate change—there is no systematic or updated analysis of the related fiscal costs and of mitigating policies.

Comments

As recognized by the government in recent budget documents, Trinidad and Tobago clearly needs gradual but sustained fiscal consolidation over the short to medium term. At over 80 percent of GDP in 2020, its public debt is quite high for a small open economy that is vulnerable to significant external and natural shocks. To be sure, the assets accumulated in the HSF, and in liquid sinking funds that are equivalent to about 5 percent of GDP, partly compensate for the debt, and the maturity structure of the latter is relatively favorable. Both these factors undoubtedly contribute to explaining why Trinidad and Tobago continues to enjoy relatively favorable sovereign ratings.⁴⁷ On the other hand, the currently projected life of the country's resource wealth is relatively short, and there are substantial longer-term costs associated with the aging structure of the population.

These considerations argue for the desirability of adopting a debt anchor for the nonfinancial public sector of at most 60 percent of GDP, to be attained within the next several years and then maintained or further

⁴⁶ The nonfinancial public sector in Trinidad and Tobago includes, in addition to the budgetary central government, nine extra-budgetary units, 150 statutory bodies, 14 local governments, and 57 SOEs.

⁴⁷ Currently, S&P gives Trinidad and Tobago an investment grade rating (although in the low range) with stable outlook, while Moody's rates it one notch below, with negative outlook.

gradually reduced over the longer term.⁴⁸ To operationalize the debt anchor, the authorities should accelerate their efforts to develop a detailed and credible MTFF for the central government, including extra-budgetary units and statutory public bodies.

The revenue and expenditure projections in the MTFF should be subjected to sensitivity analysis with respect to the main macroeconomic shocks (in growth, inflation, interest rates, and exchange rates), as well as shocks in prices and output of oil and gas. They should incorporate adequate provision for the impact of natural disasters. Over time, stress-test scenarios incorporating likely correlations among such shocks should also be developed. The targets for the fiscal adjustment variables (namely the discretionary components of revenues and expenditures) should be set, in light of the sensitivity and scenario analysis, to ensure with a reasonable degree of probability the consistency of the resulting fiscal balances with the debt anchor. Deviations of outturns from budgetary projections and changes in the MTFF from year to year should be transparently highlighted, and their reasons explained, in annual budget documents.

Developing a credible MTFF would require significant improvements in Trinidad and Tobago's public financial management systems, particularly the authorities' capacity to forecast revenues and expenditures and assess their sensitivity to macroeconomic and oil and gas price developments. It would also require the compilation and dissemination of consolidated statistics for the whole central government. Over time, the quality and reliability of budget forecasts could also be strengthened through the creation of a small independent council of experts charged with reviewing the MTFF's projections and outturns and assessing their consistency with the targeted path of the public debt.

Limits should also be established on guaranteed and nonguaranteed borrowing by SOEs. These limits should reflect the capacity of individual SOEs to service the debt, assessed on the basis of such indicators as the ratios of their debt and current and projected debt service to revenues, foreign debt to foreign exchange earnings, and short-term debt to liquid financial assets. The compilation and dissemination of consolidated statistics for the SOEs and for the entire public sector would also contribute to improved understanding, and eventually more stable and sustainable management, of Trinidad and Tobago's public finances.

⁴⁸ The debt ceiling could be specified net of assets accumulated in the HSF if the rules for deposits into and withdrawals from the fund were made flexible as recommended in Chapter 6, thereby allowing for appropriate asset-liability management.

5.3. Concluding Thoughts

This chapter has focused on lessons from the literature and international experience on institutions such as fiscal rules, MTFs, and independent fiscal councils, the adoption of which could contribute to more sustainable fiscal policies in the six Caribbean countries that are the subject of this study.

As highly indebted small states strongly dependent on either tourism or on the (necessarily time-bound) exploitation of nonrenewable natural resources, these countries are very vulnerable to exogenous shocks, including increasingly frequent natural disasters and developments in international demand, commodity prices, and interest rates. Moreover, all suffer to varying degrees from significant institutional and capacity weaknesses, well documented in previous studies of the region. Of particular relevance in this context are the weaknesses in their public financial management systems. These characteristics make the design and implementation of fiscal rules for these countries even more challenging than for others.

This chapter has argued that the priority objective of a rules-based fiscal framework in five of the countries is to ensure their fiscal sustainability through the adoption as the main fiscal policy anchor of a target medium-term path for the ratio of public debt to GDP. This variable is key for fiscal sustainability, is easily monitored, and has a clear signaling value for financial markets.

In the case of the sixth country, Guyana, where nonrenewable resources are projected to ramp up rapidly in the next few years, the main anchor should be an expenditure rule. The rule should be calibrated to ensure that fiscal deficits are eliminated rapidly and replaced by growing surpluses, and that spending does not exceed the country's macroeconomic and public financial management absorption capacity.

This chapter has argued against the use of structural balances as operational targets in the Caribbean countries analyzed, since fluctuations in fiscal revenues in these countries are largely determined by exogenous developments in foreign demand and in (very difficult to predict) international commodity prices. Instead, the countries should use as operational targets for their budgets and MTFs primary or overall fiscal balances that can be demonstrated to be consistent with the debt target under conservative macroeconomic assumptions (i.e., reasonably robust to adverse scenarios).

Clearly specified and preferably independently verified escape clauses can provide the flexibility needed to accommodate the fiscal impact of

large temporary exogenous shocks. However, it is important that the use of such clauses be accompanied by appropriately calibrated and time-bound correction requirements in order to avoid a ratcheting-up of deviations from the target path of public debt. Moreover, countries that are as vulnerable to recurrent shocks as those in the Caribbean need to put in place adequate preventive measures, as well as bolster their access to quick financing mechanisms in the event that these shocks occur.

Developing detailed and credible MTFs will require substantial improvements in these countries' public financial management systems and staff capacity, especially as regards fiscal forecasting, risk analysis, timely monitoring of budget execution, accounting, and reporting. The steps needed in this respect in each country are discussed in Chapter 3. Here, it is worth emphasizing in particular the desirability of progressively increasing the perimeter of the consolidated accounts of the public sector, including extra-budgetary units, local authorities, and commercial SOEs, which are currently numerous and constitute significant sources of fiscal risks for the central government in the Caribbean countries.

Finally, the prospects for responsible and sustainable fiscal policies would likely be enhanced by the creation of small but effective independent fiscal councils in these countries. Crucial to the effectiveness of such councils would be selection procedures for their members that guarantee their nonpartisanship and relevant technical expertise, fixed-term mandates, unfettered access to the information needed to perform their functions, and adequate resourcing.

It is encouraging that progress is already being made in many of the areas mentioned above, albeit to different degrees, by the countries that are the subject of this study. The sharp and still growing impact of the COVID-19 pandemic on the economy and the public finances of the Caribbean region, and of its external partners, adds urgency to making further progress as rapidly as possible. It is hoped that the analysis and suggestions put forward in this study contribute towards this goal.

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Sovereign Wealth Funds in Resource-Rich Caribbean Countries

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Two of the six countries examined in this volume—Suriname and Trinidad and Tobago—are heavily dependent on revenues from nonrenewable natural resources. In Guyana, already a commodity producer, sizable oil production started in December 2019. All three countries have set up sovereign wealth funds (SWFs). In Trinidad and Tobago, the fund has been in operation for over a decade. The funds in Suriname and Guyana were established recently. While the fund in Guyana is operating, the one in Suriname is yet to start operations.

The design and operation of a SWF can help or hinder economic management and have a bearing on the evolution of public wealth. This chapter focuses on the role of funds in fiscal and asset management in resource-exporting countries and discusses the funds in those countries in the region.

The chapter first introduces SWFs, including their definitions and the objectives frequently associated with them. The chapter then focuses on resource funds, that is, SWFs set up in resource-exporting countries. Some characteristics of these countries set them apart from other countries, with implications for their SWFs. Resource funds are classified and discussed according to their objectives and operational rules. Importantly, the analysis reinforces the notion that the design and effectiveness of this institution seems to be contingent on the overall institutional quality. Indeed, well-designed resource funds can provide support in reducing procyclicality and the volatility of public expenditures as well as in fostering public savings in countries with high institutional quality, including a sound overall fiscal framework. This highlights the importance of viewing

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economic institutions as a synergic system rather than stand-alone entities and, therefore, improving the overall quality of institutions which tend to be weaker in resource-exporting countries. For example, the recommendations in Chapter 5 on fiscal rules have implications for the design of resource funds and, indeed, this interplay is empirically shown in Chapter 7 of this volume.

The chapter proceeds to discuss domestic operations of funds, asset management, and governance, transparency, and accountability. The chapter then presents and reviews the main characteristics of the funds in the three resource-exporting countries examined in this volume and offers suggestions for improvement. The final section presents key conclusions and recommendations.

6.1. Sovereign Wealth Funds²

SWFs have been defined as special-purpose investment funds or arrangements created and owned by the general government for macroeconomic purposes that hold, manage, or administer assets to achieve financial objectives, and employ a set of investment strategies that include investing in foreign assets. SWFs are commonly established out of balance of payments surpluses, official foreign currency operations, proceeds from privatizations, fiscal surpluses, and/or receipts resulting from commodity exports.³

This definition excludes monetary authority foreign reserves held for balance of payments purposes, traditional public enterprise operations, domestic development funds with no foreign assets, and government-employee pension funds. It also excludes assets managed for the benefit of individuals.

SWFs have become an important institutional element of fiscal and public asset management systems in a growing number of countries. SWF operations can have important implications for macroeconomic stabilization, public wealth, growth, and development. The financial assets held

² This section and the next are largely based on Ossowski and Halland (2016, 2017). Section 6.3 of this chapter is best read in conjunction with Chapter 5 in this volume.

³ This definition has been used by the International Monetary Fund (IMF 2018b) and the International Forum of Sovereign Wealth Funds (IFSWF 2008), a global network of SWFs. Other definitions have also been used. The demarcation between SWFs and other pools of government financial assets is not straightforward, as SWFs have been established under diverse country circumstances, with different policy objectives, sources, and permissible uses of funding, legal bases, institutional setups, and governance and transparency principles.

by SWFs can be significant. In 2015, 16 SWFs worldwide managed assets equivalent to more than 50 percent of their countries' GDPs.

The motivations to create and manage SWFs, the characteristics of the funds, and country experiences in implementing them vary greatly. Governments may pursue one or more objectives through SWFs that may change over time. The following objectives, which can partially overlap, can be identified:⁴

- *Fiscal and macroeconomic stabilization.* Resource-exporting countries face the recurrent challenge of managing highly volatile and uncertain resource revenues. Stabilization funds have been set up in a number of these countries to aid fiscal and asset management in the face of revenue volatility and uncertainty.
- *Long-term savings.* The natural resources exported by resource-exporting countries are exhaustible and may become obsolete. Savings funds aim to help turn at least part of the fiscal revenues resulting from the exploitation of resource wealth into other forms of wealth. Depending on their design, some funds can combine savings and stabilization objectives.
- *Budget financing.* A few funds in resource-exporting countries receive budget surpluses and finance budget deficits automatically or help finance deficits at the discretion of the government.
- *Pension reserves.* The main goal of pension reserve funds is to help pre-fund future pensions in contexts of long-term population aging. As money is fungible, these funds are a form of long-term savings.
- *Foreign exchange management.* Many countries running sustained external current account surpluses and/or receiving large capital inflows from abroad have accumulated sizable international reserves. A number of these countries have placed a portion of those reserves in reserve investment corporations—that is, SWFs aimed at enhancing asset management and seeking a different risk-return profile from conservatively managed international reserves.
- *National development.* The mandate of the SWFs in some countries includes the authority to undertake domestic investment or to otherwise spend off-budget for public policy purposes. This may be combined with stabilization and/or savings aims.

⁴ The objectives pursued by resource funds in resource-exporting countries will be examined further in the next section of this chapter.

SWFs worldwide were estimated to hold total assets equivalent to about US\$7.5 trillion as of March 2018 (Prequin 2018). This represents a relatively small share of the global financial market, estimated at over US\$300 trillion in 2017.

SWF holdings are concentrated.⁵ In 2016, the top 10 SWFs worldwide were estimated to hold three-quarters of total SWF assets. The average SWF held assets equivalent to 54 percent of GDP, but the median SWF had assets amounting to 6 percent of GDP. The difference arises from the highly skewed distribution of SWF assets: a few funds held assets equivalent to several multiples of GDP, while three-fifths of funds held assets worth less than 10 percent of GDP.

Some funds, such as those in the Canadian province of Alberta, the U.S. state of Alaska, and the countries of Kiribati, Kuwait, and Oman, have been operating for decades. Most SWFs, however, are of recent vintage: about two-thirds of funds were set up in the last 15 years, and more than three-quarters of these funds were established in resource-exporting countries. Most oil-exporting countries have funds.

Frequent factors that prompted the creation of so many SWFs in recent years include swelling external inflows, including revenues from the long resource boom of 2004–2014; the desire to build financial buffers to withstand shocks; the expectation that a fund can help moderate public spending; and a growing interest in funds with national development objectives. As will be seen below, however, in some countries the case for an SWF is weak.

Several countries in Latin America and the Caribbean have SWFs (Table 6.1). Resource-exporting countries in the region with funds include Brazil, Chile, Colombia, Mexico, Peru, Trinidad and Tobago, and Venezuela. Panama, which collects fiscal revenues from the Panama Canal, has a savings fund. Chile's two SWFs hold the largest amounts of assets in absolute terms. However, when the ratio of assets to GDP is considered, Trinidad and Tobago's Heritage and Stabilization Fund is the largest fund relative to the size of the economy by a considerable margin.

6.2. Resource Funds

6.2.1. Resource Revenues and Fiscal Management

Many resource-exporting countries have set up resource funds in response to the challenges that resource revenue poses to fiscal policy and asset

⁵ The data in this paragraph and the next are drawn from Ossowski and Halland (2017).

Table 6.1. Sovereign Wealth Funds in Latin America and the Caribbean

Country	Sovereign Wealth Fund	Assets (2018)	
		US\$ billion	Percent of GDP
Brazil	Fundo Soberano Brasileiro	7.3	0.4
Chile	Fondo de Estabilización Económica y Social	13.9	4.7
	Fondo de Reserva de Pensiones	9.9	3.3
Colombia	Fondo de Ahorro y Estabilización	3.1	0.9
Mexico	Fondo Mexicano del Petróleo	1.0	0.1
Panama	Fondo de Ahorro de Panamá	1.4	2.1
Peru	Fondo de Estabilización Fiscal	5.8	2.6
Trinidad and Tobago	Heritage and Stabilization Fund	6.0	26.7
Venezuela	Fondo de Estabilización Económica	0.003	0.0

Sources: Sovereign Wealth Fund official reports and websites; press reports (Venezuela); International Monetary Fund, April 2019 World Economic Outlook database; and author's calculations.

management. In some of these countries, the fund is part of a fiscal framework that includes fiscal rules or fiscal guidelines. The main factors that complicate fiscal and asset-liability management in resource-exporting countries include the following:

- *Resource revenues are highly volatile and uncertain.* The fluctuations of resource revenues can be large and are unpredictable, with implications for government cash flows and public wealth. This poses challenges to good fiscal management, budget planning, and the efficient use of public resources. The revenue volatility faced by Suriname and Trinidad and Tobago is discussed in Section 6.3.
- *Resource revenues largely originate from abroad.* As the government injects these revenues into the economy through its spending, there may be potential threats to macroeconomic stability and competitiveness (“Dutch disease”), key factors for sustainable growth, development, and poverty reduction.
- *Resources are exhaustible and can become obsolete.* This raises complex questions about intergenerational equity, long-term fiscal sustainability, and asset allocation under uncertainty (see Chapter 5). These issues are particularly acute for countries with short resource production horizons. Some petroleum producers in the region have proven reserves equivalent to fewer than 10 years of production at current output levels.
- *The exploitation of the resources can give rise to large rents, and revenues can be perceived as manna from heaven.* This can unleash powerful political economy forces pressing for reckless procyclical

spending as budget constraints during upswings are often loose and raise the risk of poor-quality spending and rent-seeking as pressure groups compete for the rents.

Key issues that governments hope to help address when setting up resource funds are reducing fiscal policy procyclicality, moderating government spending, and promoting saving for future generations. These are discussed in the sections that follow.

Procyclicality and Excessive Government Spending

In many resource-exporting countries, public expenditure has been highly procyclical (Villafuerte and López Murphy 2010; Frankel 2011; IMF 2015a).⁶ Procyclical fiscal policy responses to resource revenues have exacerbated volatility and uncertainty in economies, with detrimental effects for long-term growth. For example, many resource-exporting countries increased public expenditure and the nonresource fiscal deficit significantly as resource prices surged in 2004–2008 and 2010–2014. As prices fell in 2009 and again starting in the second half of 2014, many resource-exporting countries had to endure sharp procyclical fiscal contractions.

Why is fiscal policy frequently procyclical in resource-exporting countries? A number of factors that can interact with one another help explain this phenomenon:

- Politicians are often tempted to view positive resource shocks as permanent.
- Political pressures to spend during booms and “distribute the rents” can become overwhelming.
- There may be an inclination to spend now rather than passing on financial assets or lower debt to future governments. If there is an expectation that future governments may mismanage or squander any savings built up by the current government, spending now may even be perceived as optimal (Alesina and Drazen 1991; Collier 2012).
- The planning horizons of politicians are frequently too short (Raveh and Tsur 2018).
- Resource exporters tend to have weaker institutional quality than other countries at similar levels of development. Institutional

⁶ Fiscal policy is procyclical when it is expansionary (through expenditure increases or tax reductions) in booms (good times) and contractionary (through expenditure cuts or tax increases) in recessions (bad times).

quality helps limit procyclical biases (Dabla Norris et al. 2010; Frankel, Vegh, and Vuletin 2013; IMF 2015a).

- Annual budgets are often formulated with very short-term horizons, sometimes just encompassing the next fiscal year, and with an imperfect technical understanding of the short- and medium-term fiscal risks that higher spending entails for the exposure of the fiscal position to revenue or other shocks.
- When resource prices fall, the inability to sustain the resulting fiscal deficits due to insufficient liquidity buffers and constrained access to credit often forces governments to undertake painful fiscal contractions. Indeed, procyclical fiscal policies increase the chances of debt crises during busts.

Saving for Future Generations

Some countries such as Norway have been able to turn their resource wealth into other forms of wealth such as infrastructure and human capital and put part of the revenues into financial assets to provide for future generations. A number of other resource-exporting countries have been less successful. For example, governments have sometimes made costly and irreversible investments in politically motivated and illiquid assets at home that have not necessarily been growth-enhancing, rather than in financial assets (see Barma et al. [2012] on the political economy of spending in resource-exporting countries). Many resource-exporting countries that benefit from resource revenues are nevertheless saddled with high levels of public debt and hold limited financial assets.

Many governments have been unable to manage resource revenues prudently and sustainably—as evidenced by generally low rates of genuine saving (i.e., saving adjusted for factors such as depreciation, resource depletion, formation of human capital, and environmental degradation). Low genuine savings and the inability to transform wealth into other forms of productive capital have been contributing factors to what is known as the “resource curse” (Atkinson and Hamilton 2003; Boos and Holm-Müller 2013; World Bank 2018).

Against this backdrop, setting up resource funds to help improve macroeconomic and fiscal outcomes often looks like an attractive proposition. However, the rationale for a resource fund must be carefully considered on a case-by-case basis. What would the fund help do better than established budget and asset management systems? How would deposits into the fund be financed? Setting up a new institution with the requisite expertise can be a significant investment in time, resources, and human capital. Do the potential benefits outweigh the potential costs?

Before moving on to the specifics of resource funds, a reflection on new funds and initial conditions is in order. In the last decade or so some governments established resource funds in situations where the case for doing so was dubious. Bauer and Mihalyi (2018) discuss “premature funds,” which are resource funds created in contexts where:

- *Resource revenues are small.* In this case, the macroeconomic and fiscal challenges that funds aim to help address do not arise to any significant extent.
- *Resource revenues are distant or uncertain.* There is evidence that future resource revenues tend to be overestimated. Some governments that optimistically set up funds well ahead of projected production, with associated costs, subsequently found that not much was produced.
- *Public debt levels are high and continuing deficits are foreseen.* In these circumstances, having to make deposits to the fund will add to financing requirements and to the gross public debt, and will increase deficits over time through the net carry costs. The recently created resource fund in Suriname seems to be a premature fund in this sense (see Section 6.3).
- *The economy is very small.* In such cases it may not be feasible or cost-effective to set up a complex resource fund (Schmidt-Hebbel 2018).

That said, many governments have set up resource funds with mainly stabilization or savings objectives or some combination thereof. In what follows, funds will be distinguished according to the nature of their operational inflow and outflow rules, taking into account their fundamental operational differences and implications that are sometimes overlooked in the literature, to wit:

- Stabilization funds and savings funds with rigid inflow/outflow rules largely unrelated to the fiscal context.
- Financing funds with flexible inflow/outflow mechanisms integrated or largely integrated with fiscal policy and asset management.

6.2.2. Stabilization Funds and Savings Funds with Rigid Inflow/Outflow Rules

Stabilization Funds

The main policy objective of stabilization funds is to help safeguard macroeconomic and fiscal stability and support fiscal discipline. The

operational objective is to reduce the volatility and uncertainty of budget revenue.

Stabilization funds typically have rigid price- or revenue-contingent operational deposit and withdrawal rules designed to reduce the volatility of budget revenue. The fund receives transfers from the budget if the actual resource price or revenue during budget execution is higher than a specified trigger resource price or revenue; if lower, the fund may make transfers to the budget.

The trigger price or revenue may be fixed (as in early designs of stabilization funds in Russia and Venezuela), or it may be set annually, either on a discretionary basis (as in Algeria or former funds in Chile, Ecuador, Iran, and Mexico), or through a formula (as in funds in Ghana, Mongolia, Suriname, and Trinidad and Tobago).

There is a large variety of practices concerning the design of the rules and triggers, the share of the excesses or shortfalls that must or may be transferred, caps on annual transfers, and floors and/or caps on fund assets.

Reducing budget revenue fluctuations and uncertainty by means of these fund mechanisms is expected to help achieve two main goals:

- *Reduce procyclicality by moderating expenditure in booms and supporting spending in slumps.* The expectation is that when resource revenues are high relative to the trigger, having to make deposits into the fund—thereby removing those resources from the budget—would help facilitate the decoupling of budget spending from revenue flows, contain expenditure, and discipline the budget. The resources in the fund could be used when revenues are below the trigger to help prevent unpredictable fiscal adjustments.
- *Create liquidity buffers by making deposits to the fund in “good” times that can subsequently be used in “bad” times.* Why would this form of self-insurance be sought? The classic rationale is that capital markets are procyclical, and credit may not be available in a slump when it is most needed.

Savings Funds

The main policy objective of savings funds is to help accumulate fiscal savings and create a store of wealth for future generations. The operational objective is to remove some revenues from the budget.

Savings funds typically have rigid noncontingent rules that require the deposit of a specified share of resource revenues, or of total revenues,

into the fund, regardless of macroeconomic or fiscal circumstances. Funds with these characteristics include those in Alaska, Angola, Gabon, Iran, and Kuwait. Rules for withdrawals from the fund vary, and in some cases are not clearly specified. The possibility of withdrawals from the fund to finance the budget may add a stabilization element to the main savings objective.

Alternatively, all resource revenues flow to the fund, and the annual transfer to the budget is subject to a cap, as in the fund recently set up in Guyana and the fund in Kazakhstan. The expectation is that the revenues removed from the budget are put away for long-term savings.

Funds with Rigid Rules, Procyclicality, Savings, and Liquidity Buffers

The effectiveness of funds with rigid rules to decouple budget spending from resource revenues during booms (stabilization funds) or to ensure fiscal savings (savings funds) is in principle uncertain. There are two reasons for this: money is fungible, and funds do not affect public spending directly except in very specific circumstances.

Governments can spend and make the required deposits by borrowing or running down other assets. Compliance with rigid fund deposit rules will not prevent a government from carrying out inappropriate expenditure policies if it so desires. The key point is that funds on their own cannot ensure fiscal restraint, unless the government faces liquidity constraints and is unable to borrow or run down assets—an unlikely situation for many countries during resource booms—and the deposit rule is binding and is observed, in which case the resources transferred from the budget to the fund cannot be spent.

Fund inflow and outflow rules should not be confused with numerical fiscal rules. The literature on resource funds sometimes speaks of operational fund rules as if they were fiscal rules, and indeed sometimes calls them fiscal rules, but they are not. Numerical fiscal rules are standing commitments to achieving specific targets for one or more *key budget aggregates* (such as a fiscal balance, expenditure, or debt) over a specified time horizon (see Chapter 5). By contrast, fund inflow and outflow rules pertain to the framework under which deposits and withdrawals from the fund are governed.

Sometimes it is thought that setting up funds with strict fund inflow and outflow rules will shield the fund's assets and protect the fund from being raided by politicians intent on spending. What is perhaps less widely recognized is that a fund can also be raided indirectly. Those same expenditures can be financed by issuing debt or running down public assets without laying a hand on the fund's assets.

A key point in this regard is that wealth will not be transferred to future generations if the buildup of financial assets in the fund is simultaneously undone by running budget deficits and accumulating debt. What matters for public saving and wealth is the evolution of overall net financial assets. As Skancke (2003) put it, “the real issue is whether there is any higher public support for net, as opposed to gross asset accumulation. It does not help much to protect the oil fund if debt is being accumulated elsewhere.” Indeed, an excessive focus on the fund’s assets might actually obscure seeing the broader picture.

There are numerous cases where focus on the assets in the fund would give a partial and misleading picture of the evolution of government financial assets. In the 2000s, growing balances in Chad’s Fund for Future Generations mandated by the fund’s rules were largely offset by increased domestic borrowing and the accumulation of arrears. In Mongolia, transfers to the Stabilization and Savings Fund equivalent to 2.5 percent of GDP were made over three years during the resource boom, but the public debt rose by over 40 percentage points of GDP.

While the *technical capacity* of funds to moderate spending is extremely doubtful, the case for rigid-rule funds is often predicated on *political economy* grounds. It is argued that if governments have to put money away, or cannot use existing fund assets, then having to borrow to finance expenditure might create frictions and complications in the political process that would make undertaking such spending more difficult or politically costly. Funds might influence the politics in the direction of moderating spending, for example if legislatures oppose debt issuance.

There may be some cases where such political economy frictions provide some short-term succor to moderate spending. On the whole, however, the evidence suggests that any political economy benefits from removing resources from the budget are often unclear; that the results seem to be highly country-specific; and that when pressures are brought to bear, funds can succumb to circumstances. This is shown by international experience and econometric evidence.

Expenditure policy among oil exporters with rigid-rule resource funds in the last 15 years was on average very procyclical, as seen in the following examples:

- Many of these countries increased expenditure significantly during the two phases of the long resource boom (2004–2008 and 2010–2014), particularly during the first phase. In a number of oil exporters with funds, expenditure in real terms more than doubled

from 2003 to 2008.⁷ During the boom, liquidity was so ample that many governments were able to make the required deposits in their stabilization or savings funds and spend lavishly.

- Many oil exporters with funds cut spending considerably in the two slumps (2009–2010 and since 2014), particularly during the more recent and protracted one, when several countries reduced spending in real terms by 20 percent or more in just two years from 2014 to 2016.

The econometric evidence on the effectiveness of resource funds to reduce procyclicality or the volatility of expenditure, or to foster public savings, is mixed. Some studies show some effect, especially in countries with high institutional quality—which raises the issue of whether moderation arises from the resource fund or more generally from good institutions. Other studies, however, show no evidence of funds dampening procyclicality or moderating public spending.⁸

On the other hand, there is empirical evidence that institutional quality helps limit policy procyclicality (Frankel, Vegh, and Vuletin 2013; IMF 2015a; Bova, Medas, and Poghosyan 2016).⁹ This underscores the importance of improving the quality of institutions, which, as indicated above, tend to be weaker in resource-exporting countries than in other countries at similar levels of development.

While the benefits to be derived from funds with rigid rules are uncertain, such rules can be costly. Specifically, they can force governments to engage in suboptimal asset-liability management. Several countries with funds with rigid rules bore fiscal costs from the asset management actions imposed on them by fund rules. Three classic examples follow.

⁷ These countries include Algeria, Ecuador, Equatorial Guinea, Kazakhstan, Kuwait, Libya, Qatar, Sudan, and Trinidad and Tobago.

⁸ Schmidt-Hebbel (2018) reviews some of the evidence. Sugawara (2014) found that government spending is less volatile in resource-rich countries with funds than in those without. Coutinho et al. (2013) found that having an SWF reduces fiscal procyclicality. On the other hand, Crain and Devlin (2003) found that funds can increase the volatility of government expenditure. Ossowski et al. (2008) found that funds do not have a statistically significant impact on key fiscal variables, and the econometric cross-country evidence in a comprehensive study by the IMF suggests that resource funds or fiscal rules have not reduced procyclicality in a statistically significant way (IMF 2015a, 2015b; Bova, Medas, and Poghosyan 2016). Studies rarely distinguish between types of resource funds. Bova, Medas, and Poghosyan (2016) are unusual in distinguishing between stabilization and savings funds.

⁹ Fajgenbaum and Loser (2018) discuss the importance of institutional quality for the conduct of sound fiscal policies in Caribbean countries.

1. The fund's rules may mandate deposits, but if the budget is in deficit the government is forced to borrow to finance the deposits. What is the wisdom of borrowing at high interest rates to place assets in the fund with low yields because arbitrary fund rules in combination with unpredictable events force the government to do so? This has happened in many instances, including in Algeria, Chad, Ecuador, Ghana, Iran, Mongolia, Trinidad and Tobago, and Venezuela. Two specific examples:
 - The deposit rules of the two funds in Ghana forced the government to make transfers to its fund while running budget deficits on the order of 10 percent of GDP. The government had to borrow at interest rates significantly higher than the returns on the fund's assets to finance the deposits, with associated fiscal costs.
 - The revenues of the National Development Fund of Iran, a savings and development fund, consist of a specific share of oil and gas export revenues, irrespective of oil, macroeconomic, or fiscal developments. For several years the fund accumulated substantial assets at a time when the budget was facing severe revenue shortfalls. Given liquidity constraints, the government was forced to cut government expenditure significantly (including large cuts to investment) and resort to inflationary monetary financing, while resources mounted in the National Development Fund. As oil prices fell from 2015, the share of oil revenue going to the fund was reduced.
2. The budget may need financing, and the resource fund may have liquidity available, but the fund's withdrawal rules may prevent the use of those resources. The government is forced to borrow even if financing from the fund might be a better course of action.
3. In some cases, "excess revenues" that have to be deposited in stabilization funds, or the share of revenues required by savings funds, could perhaps be better used to pay off expensive debt. For example, the government in Gabon had to make deposits into its fund while at the same time paying high interest rates on its large public external debt.

The general point that arises from this discussion is that a fund's rigid inflow/outflow rules may not be right for the specific circumstances. This can lead to tensions and policy dilemmas, including in situations of significant exogenous shocks, changes in policy priorities, and conflicting objectives between the fund, fiscal policy, and asset-liability management. This has often resulted in one or more of the following:

- The fund's rules being complied with, which generated fiscal costs.
- The fund's rules being ignored.
- Exceptional conditions being invoked to “temporarily” suspend the rules.
- The government frequently changing the fund's rules.
- The fund being abolished.

As indicated above, the second common objective of stabilization funds is the buildup of precautionary liquidity and financial buffers during good times that can be used in bad times.

A key observation in this regard is that rigid contingent rule mechanisms are not related to optimal risk and liquidity management. Actual fund liquidity outcomes are generated by the dynamic interplay of the rigid contingent inflow/outflow mechanisms set for the fund and the unpredictable realizations of the stochastic processes driving variables such as resource prices, volumes, and costs. It is unlikely that this interplay will produce optimal liquidity levels and minimize fiscal costs.

Optimal precautionary liquidity buffers can be implemented instead of funds with rigid rules. Establishing such buffers with the right design may be considered because shocks can be large and persistent, credit to finance the budget in downturns may dry out, or liquidity may have a value higher than its cost. The availability of precautionary balances can temporarily protect spending in the budget against revenue shocks. It also provides time to consider and, if needed, implement appropriate fiscal responses to lower resource prices gradually.

Liquidity buffers can be built based on what the government considers a minimum degree of confidence that the buffer will be adequate if there is a revenue shock. The optimal size of the buffer will depend mainly on the country's degree of resource dependence, the level of risk the country is facing, and its tolerance to risk.

A value-at-risk approach with risk simulations can be used to estimate the size of a buffer that would ensure with a minimum acceptable probability level that it is not depleted over a chosen horizon (e.g., two or three years) given an expenditure or nonresource balance plan. This would protect spending from cuts over the chosen period with the selected confidence level. IMF (2012b) offers operational guidance for the estimation of optimal liquidity buffers. For example, it was estimated that Gabon would need a minimum buffer equivalent to 30 percent of annual oil revenue to ensure with a probability of 85 percent that the buffer would not be depleted over three years given the projected non-oil fiscal policy (IMF 2013).

Insurance may also be sought through means other than liquidity buffers. For example, contingent credit lines that pre-commit access to financing when needed may be available. Other market mechanisms could be used, such as Mexico's annual oil hedging program (IMF 2018d). The use of market instruments to transfer risk, however, requires considerable technical capacity and strong governance to limit the risk of strategic and execution errors and to forestall speculation.

Self-insurance and insurance mechanisms to mitigate fiscal risks come at a cost and involve social choices. Liquidity buffers, for instance, entail opportunity costs and fiscal costs.

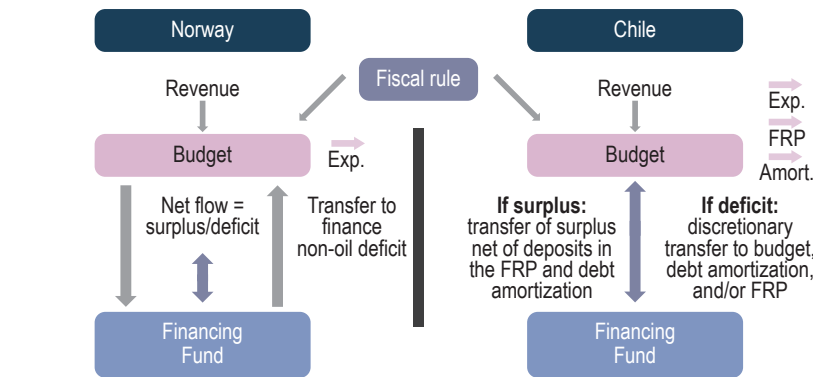
Social attitudes to risk given the cost of insurance may result in different approaches in different countries. Some societies may prefer to devote fiscal resources to secure substantial protection against shocks. Other societies may opt for less protection and devote the resources to other perceived priorities—although they should be mindful of the costs that procyclical fiscal adjustments forced by lack of financing may entail for sustainable growth and poverty reduction.

Indeed, having precautionary financial assets is arguably a pro-poor and developmental strategy in resource-exporting countries. It facilitates implementing countercyclical fiscal policies during slumps, or at least avoiding sudden fiscal adjustments, which helps low-income groups. This may be particularly relevant for the resource exporters included in this study, as they show relatively higher vulnerability in terms of social indicators than other countries (Beuermann and Schmid 2018). That said, combining risk mitigation instruments from a menu of choices may be a sensible alternative worth exploring compared to the traditional stabilization fund devices discussed above.

Finally, the International Monetary Fund (IMF) has advised against rigid resource fund operational rules. It recommends viewing resource funds as complementary policy tools, rather than as the main fiscal policy instrument. It cautions that complicated rules governing flows between the budget and the fund (such as those discussed above) are not conducive to effective fiscal policy management. Instead, the accumulation of resources in a fund for self-insurance and/or intergenerational objectives should be derived from fiscal surpluses (IMF 2012b, 2015a, 2018b). This last recommendation leads to the next category of funds to be considered, namely financing funds.

6.2.3. Financing Funds with Flexible Inflow/Outflow Rules

The design of funds should be considered in a holistic manner and aligned with fiscal policy and asset management objectives. In contrast with the

Figure 6.1. Financing Funds: Norway and Chile

Sources: Norway Ministry of Finance (2001); Chile Ministry of Finance (2019); and author's calculations.
Note: FRP: Fondo de Reserva de Pensiones (Pension Reserve Fund).

funds just discussed, the transfers between financing funds and the budget are flexible. The inflow/outflow mechanisms of the funds are aligned, or largely aligned, with overall fiscal balances and well integrated with the fiscal policy framework.

Few countries have implemented financing or quasi-financing funds. They include Azerbaijan, Chile, Norway, Timor Leste, and Uganda (the future Petroleum Fund), along with rainy-day funds in some U.S. states.¹⁰ The design of the operational rules of these funds is based on best practice or close to best practice. Figure 6.1 shows the models of Norway and Chile.

In Norway, the Government Pension Fund-Global (GPF-G) receives all the oil revenue from the budget and automatically finances the resulting budget's non-oil deficit. The fund is the mirror image of the budget: surpluses are deposited, and deficits are financed. It is an integrated part of government finances. The budget's non-oil deficit is constrained by a fiscal guideline on the structural non-oil primary deficit.

In Chile, the Economic and Social Stabilization Fund (Fondo de Estabilización Económica y Social, FEES) receives budget surpluses net of budget transfers to the Pension Reserve Fund (Fondo de Reserva de Pensiones, FRP) and debt amortization. When the budget is in deficit, the Ministry of Finance uses flexibility regarding decisions about transfers from the fund, taking into account macroeconomic and fiscal conditions

¹⁰ The State Oil Fund in Azerbaijan carries out some extrabudgetary spending. The expenditures are executed by the State Treasury and included in the Consolidated Budget, though not in the State Budget.

and overall asset-liability management objectives. For example, in recent years the government has chosen to finance budget deficits mainly by issuing debt rather than by drawing from the FEES. The budget balance is constrained by a structural fiscal rule.

Financing funds do not try to “discipline” spending by forcibly removing resources from the budget. The disciplining is done directly at the budget level with fiscal rules or medium-term fiscal frameworks. The focus of fiscal policy is fully devolved to the budget.

Financing funds are well integrated into the budget process. Their simplicity fosters transparency and public understanding. They do not impose rigidities and potential inefficiencies on asset-liability management. They wholly or largely avoid the problems caused by the fungibility of money. In Norway, asset accumulation in the fund is not financed by debt and the GPF-G provides an explicit and transparent link between fiscal policy and asset accumulation. In Azerbaijan, Chile, and Timor Leste, the decisions on how to finance budget deficits are discretionary.

The recommendations in Chapter 5 on fiscal rules for the resource producers in the Caribbean have implications for the design of their funds. Specifically, if there is a case and a desire for a fund in the context of a fiscal framework with fiscal rules, the sensible choice would be a financing fund, or at least a fund with very flexible deposit and withdrawal rules. There are two main reasons why it would make little sense to have a fund with rigid rules if there are fiscal rules:

- Since fiscal policy would be constrained by the fiscal rule, it would be redundant to place additional restrictions in the form of rigid fund transfers. What would such transfer rules add to the fiscal rules?
- Rigid transfer rules would risk over-determining the fiscal framework by complicating fiscal and asset management, and potentially creating policy dilemmas between adherence to the fiscal rule, the fund’s rules, and other policy objectives.

6.2.4. *Domestic Operations of Resource Funds*

A number of resource funds, including many of recent vintage, undertake domestic operations. Examples of countries or subnational jurisdictions where funds carry out such operations, or did so in the past, include Alaska, Alberta, Algeria, Angola, Azerbaijan, Gabon, Iran, Kazakhstan, Kuwait, Malaysia, Nigeria, Qatar, Russia, the United Arab Emirates, and Venezuela.

The question of whether resource funds should be able to engage in spending and other domestic operations is the subject of acute controversy. Proponents have argued, for example, that funds should promote development by investing domestically rather than placing assets abroad, or that spending by the fund can bypass inefficient, ineffective, or corrupt budget processes. Opponents have stressed the risks that domestic operations may generate to macroeconomic stability, public financial management, transparency, and the dangers of corruption and rent capture in weak institutional systems.

The literature has often bundled the domestic operations of resource funds into the single category of “spending.” In fact, it is useful to distinguish different cases: (1) domestic investment or spending by funds for *public policy purposes*, (2) funds that hold domestic financial assets purely on a *commercial basis* as part of their portfolio management, and (3) funds that have a “double bottom line” domestic investment criterion of a *commercial financial return and an economic impact*.

Spending for Public Policy Purposes

Domestic investment and other spending undertaken by resource funds for public policy purposes involves noncommercial activities that could be replicated through tax and expenditure policies of the government’s budget. For example, the fund may invest in public infrastructure, provide subsidies, or otherwise spend directly off-budget; supply domestic loans; or undertake equity investment in private-public or private companies or provide guarantees to them that generate contingent liabilities, in all cases for noncommercial purposes.

Resource fund spending raises the following macroeconomic, public financial management, and governance concerns:

- From a macroeconomic perspective, using fund resources for domestic spending could put pressure on prices and the exchange rate, transmit resource revenue volatility to the economy, and be procyclical, with implications for growth. Domestic investment financed with volatile resource revenues could expose it to start-and-stop cycles.
- Domestic spending raises fiscal and public financial management risks that include the potential for poor policy coordination; dual budgets; lack of proper evaluation, contestability, and prioritization; duplication of activities carried out by budget authorities; blurring of institutional responsibilities; reduced transparency; and fragmentation of fiscal policy.

- How will political capture of the fund by special interests and corruption be prevented and good governance preserved?
- How is fund management performance to be assessed and managerial accountability upheld if fund managers can claim that government-imposed spending requirements distract them or stand in the way of achieving adequate returns on fund assets?

International experience provides little evidence that resource fund spending has been superior to budget spending. A number of funds succumbed to pressures to capture their spending, finance politically motivated projects, and raise government expenditure outside the budget.¹¹ Lack of transparency has sometimes facilitated corruption, hindered legitimacy, and dented public support for fund operations. In some cases, the limited expertise of funds with public service delivery, along with inadequate accountability, has raised serious concerns about the effectiveness, prioritization, and probity of such spending (Shields 2013; NRG 2014).

The use of funds to bypass the budget can have a negative impact on development of the public financial management system. Scarce resources may be diverted to the fund, and there may be less scrutiny of the core budget.

The macroeconomic, public financial management, and governance risks involved, and the experience of many countries, lead to the conclusion that resource funds should not have independent spending authority. Expenditure should be kept on-budget. All fund inflows and outflows should be approved by the legislature and go through the budget. The fund should focus on the maximization of financial returns subject to risk and liquidity restrictions set in official investment guidelines.

Investment in Domestic Financial Assets as Part of Asset Management

Whether resource fund assets might be used for domestic commercial financial investment has also been the subject of much debate. Advocates contend that funds in capital-scarce countries could obtain higher risk-adjusted returns from investing commercially at home than from placing their assets abroad, potentially with positive externalities such as drawing in foreign investment and technological transfer. Others express concerns over the potential low quality of the investments and the returns on the financial assets, given the risks of elite capture,

¹¹ Ossowski and Halland (2016) provide some examples.

government interference in investment decisions, conflicts of interest if the government sponsors the investments, and governance issues. They also highlight the risks of procyclicality and greater macroeconomic volatility, since domestic financial investment could exacerbate booms and busts. For example, during downturns, the government might require or encourage the fund's management to procyclically liquidate domestic assets to help the budget.

Therefore, domestic financial investment may create new possibilities, but it also entails substantial risks (Gelb, Tordo, and Halland 2014). This suggests the need for a very cautious approach, particularly in the case of new funds without a proven track record of prudent and professional asset and risk management, and the importance of not having political interference in investment decisions. Some fundamental principles are:

- Investments should be strictly limited to undertakings with demonstrable commercial or quasi-commercial returns. Viability gaps, if any, should be small and transparently covered by the budget. Public-policy-motivated projects should be excluded.
- The fund should only invest as a minority shareholder to share risk with the private sector.
- The domestic investment envelope should be consistent with the macro framework.
- Fund managers must have legal and functional independence, on paper and in practice, to act as professional investors.
- Stringent disclosure, reporting, external audit, and governance principles are crucial requirements. There must be a clear separation of responsibilities between the roles of the government as owner, the fund's board (if any), fund management, and the operational asset managers.

In the case of new funds, caution suggests not allowing domestic financial investments until the fund has established a record of prudent and independent investment in foreign assets. Obtaining a run of clean external audit reports for about four to five years should be a prerequisite.

6.2.5. *Asset Management*

Resource funds can be a key component of public asset and liability management. A number of resource funds hold significant public sector financial assets. How these assets are managed can help build up public sector wealth—or can contribute to diminishing it.

In 2018, 16 resource-exporting countries had funds that held assets equivalent to at least 20 percent of GDP, with half of them holding assets in excess of 100 percent of GDP (Figure 6.2). In 10 countries assets were in the range of 1 to 10 percent of GDP.

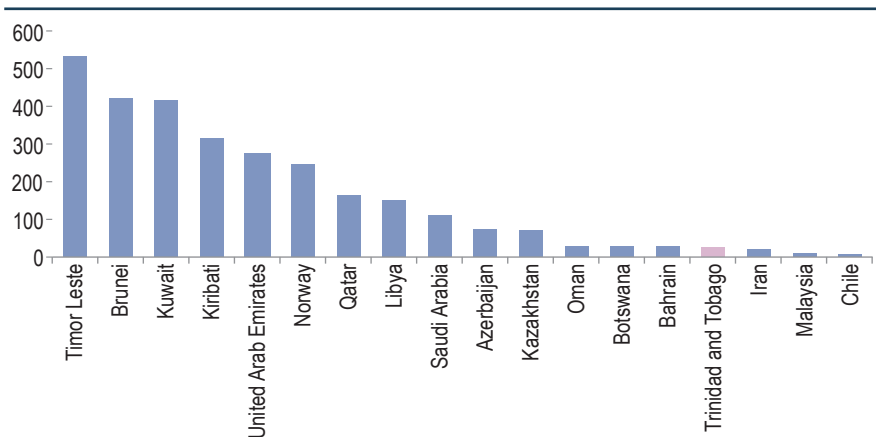
There are various approaches to determining the asset accumulation strategy that a fund will pursue. At one extreme of the spectrum, under a narrow approach, the fund's asset strategy is informed mainly by its objectives. At the other extreme, management of the fund's assets is an element of comprehensive sovereign asset-liability management.

Funds typically have a Strategic Asset Allocation (SAA) that embodies their investment strategy. The SAA is a portfolio of assets that meets a pre-specified investment objective. It integrates the owner's objectives with anticipation about the risk/return characteristics of various asset classes, including the correlation between those asset classes. The result is a set of portfolio shares for the eligible asset classes. SAAs typically include permissible deviations from benchmarks.

The SAA is usually operationalized in investment guidelines that fund managers must observe, as in the case of the SAA of Trinidad and Tobago's Heritage and Stabilization Fund (Section 6.3).

Reflecting their main objective of providing liquidity during downturns, and the fact that assets may be required on short notice, stabilization funds tend to have conservative SAAs tilted toward low-risk liquid financial assets such as cash and high-grade fixed income. Some stabilization

Figure 6.2. Assets of Selected Resource Funds, 2018
(percent of GDP)



Sources: Sovereign Wealth Fund Institute (SWF assets data reported in February 2019); International Monetary Fund, April 2019 World Economic Outlook database; and author's calculations.

funds cap the size of their total assets at the level judged to be sufficient for stabilization purposes: once the portfolio exceeds the cap, the fund may be redesigned to incorporate a savings objective, or excess assets may be transferred to a savings fund or to other uses.

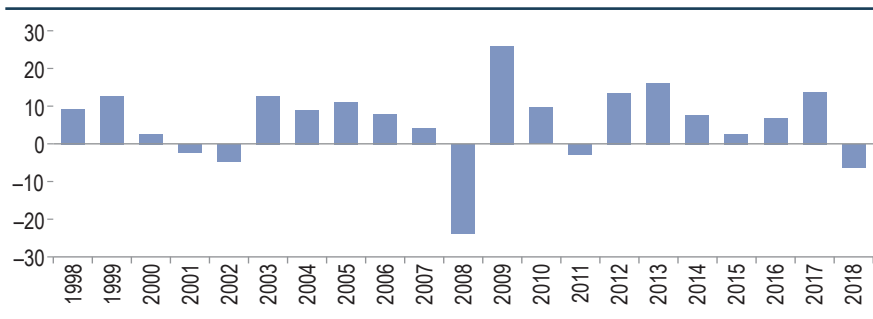
The assets of stabilization funds should be held abroad because macroeconomic stabilization is an objective. If the fund were to invest domestically during booms and liquidate domestic assets during slumps, these actions would exacerbate macroeconomic volatility.

Savings funds, in contrast, have greater risk tolerance for the intertemporal volatility of returns and longer investment horizons. As a result, they can invest in riskier and less liquid assets such as equity, corporate bonds, and real estate, with higher expected returns but also higher year-to-year volatility of returns. Matters of liquidity and short-term volatility of returns are less important. However, to some extent the additional expected return is a function of the additional year-to-year risk that the government (society) is willing to bear.

While attention is often focused on the volatility of resource revenues, the year-to-year volatility of returns in funds seeking higher yields should not be ignored. For example, the standard deviation of annual returns on Norway's GPF-G over 1998–2018 was 10 percent. Annual returns ranged from –23.3 percent to 25.6 percent, with both these values recorded during the global financial crisis (Figure 6.3). Over time, the standard deviation of the annual returns on equities has been two to three times higher than for bonds.

Assuming that returns are normally distributed, a standard deviation of 10 percent means, in approximate terms, that the return can be expected to deviate from the average by more than 10 percentage points in one out of every three years. And it can be expected to deviate by more than 20

Figure 6.3. Norway's Government Pension Fund–Global: Annual Returns (percent)



Source: Norges Bank Investment Management.

percentage points in one out of every 20 years. To illustrate this point, for a resource fund holding the equivalent of 30 percent of GDP, one standard deviation corresponds to 3 percentage points of GDP.

In fact, however, returns do not follow a normal distribution. The tails have more probability density, so large changes and crises in financial markets occur far more frequently and are more severe than a normal distribution would indicate.

This, in turn, can raise political economy issues. It is a fact of life that a fund heavily invested in equities for long-term objectives may experience sizable short-term losses from time to time. The maintenance of the investment strategies and support for the fund requires political and social acceptance of the risk of substantial declines in the value of the fund.

This can be helped by strong fund transparency and effective public information strategies. The consent of a legislature for a proposed SAA can provide added legitimacy to the risk-return strategy to be pursued. For example, on matters of strategic importance for the overall return and risk of the GPF-G, the Norwegian Ministry of Finance has used budget documentation and periodic white papers to place decisions on fund strategy with Parliament. Having a range of actors involved in the fund's management and monitoring (including external oversight) can also be helpful.

Risk, however, is a complex concept with intertemporal dimensions that cannot be fully captured by a single indicator such as the annual volatility of returns. Short-term volatility may not be the most relevant indicator. For example, the possibility of returns remaining low for long periods is a very different type of risk. Yet another interpretation of risk might be the likelihood of failing to meet some policy objectives. A savings fund financed by fiscal surpluses and largely invested in "safe" low-yield assets may fail to deliver the objective of transferring wealth to future generations, and in this sense, it is a risky strategy even though the assets it holds are "safe" (IMF 2014).

Some funds started with conservative SAAs and gradually moved toward higher-risk and higher-yield assets. This is partly related to the development of capacity in the funds and to the growth of fund assets. It may also reflect political economy factors: the desire to lessen the risk of losses in the early stages of a fund, when there is a need to build broad constituencies to support fund objectives.

Comparison of returns across resource funds is not straightforward. SWFs have different SAAs that in principle reflect attitudes about risk and return. Funds also use different methodologies for the computation of returns. Some funds show rates of return net of operational costs. Bearing these caveats in mind, the evidence suggests that well-established

and well-managed funds have generally achieved average annual rates of return on the order of 2 to 6 percent (Ossowski and Halland 2017; Bauer and Mihalyi 2018).¹²

A comprehensive approach to asset and liability management recognizes that from a risk-return perspective, it is suboptimal to optimize separate balance sheets rather than the consolidated balance sheet (IMF 2014). From the asset-liability and public debt management standpoint, the government should ideally manage its sovereign balance sheet in its entirety—including the estimated fiscal value of natural resources in the ground.

This issue is particularly relevant to resource-exporting countries that manage funds, because fund resources are part of the sovereign balance sheet. An SAA that may look optimal for the resource fund viewed in isolation is likely to be suboptimal in terms of the risk-return tradeoffs for the assets and liabilities of the public sector.

A classic example of the need for integrated approaches is the issue of resource fund assets versus government debt. This was discussed above in the context of funds with rigid rules. It is also an important topic for new resource producers that may have large stocks of public debt when resource production begins, such as Guyana. When resource revenues begin to accrue, countries have to decide how to allocate them among spending increases, tax reductions, accumulation of assets in a resource fund, or extinguishing public debt. This issue is a balance sheet optimization problem with key insurance aspects. A simplistic strategy of accumulation of assets in a fund without consideration of the wider asset-liability picture is unlikely to be optimal.

In principle, therefore, a holistic view of the public sector's balance sheet (or at least of the financial balance sheet) would be recommended (IMF 2014). The technical and institutional difficulties involved in this approach, however, should not be underestimated. Therefore, resource producers that have hitherto managed fund assets in isolation could start by making efforts to better integrate fund asset management with government liability management.

6.2.6. Governance, Transparency, and Accountability

Fiscal transparency refers to the comprehensiveness, clarity, reliability, frequency, timeliness, and relevance of public reporting on the past, present, and future state of public finances and the openness of the information.

¹² Readers interested in fund asset management are referred to Das, Mazarei, and van der Hoorn (2010), Al-Hassan et al. (2013), IMF (2014), and Megginson and Fotak (2016).

It provides the information that legislatures, markets, and citizens need to hold governments accountable for their policymaking processes, fiscal performance, and management of public resources (IMF 2018a).

A substantial empirical literature shows the importance of fiscal transparency for effectively managing public resources, improving governance, and reducing corruption (Heald 2013; De Renzio and Wehner 2015).¹³

Resource fund transparency involves several dimensions, including clear roles and responsibilities for the various actors (policymakers, fund boards, fund managers, external asset managers, auditors, the legislature, and other oversight institutions), open decision-making processes, public availability of information, and reporting and assurances of integrity.

Lessons from experience and best practice suggest the vital importance of strong resource fund governance and transparency frameworks—and their effective implementation. They are key to achieving solid and sustainable fund performance and to helping prevent political capture, mismanagement, corruption, and abuse. Fund transparency is also critical to allow policymakers, market participants, and the public to monitor and assess overall fiscal performance and public wealth dynamics.

Transparency is necessary to secure sustained public support for the fund and its objectives. The public may be more willing to support the accumulation of substantial public assets in a fund when governments are prepared to tell them exactly how they propose to invest the money and what are the actual returns on the investments (Skancke 2003).

The IMF's recent work on integrating natural resource management issues into its Fiscal Transparency Code includes broad governance and transparency recommendations for resource funds (IMF 2018b). For a resource fund to reach the advanced level of practice under the code, the fund must:

- Have governance arrangements and operational rules specified in legislation;
- Publish quarterly and annual reports on its operations, finances, and investment performance relative to strategy and benchmarks; and
- Produce annual financial statements that are externally audited.

Governance and transparency in resource funds are broad topics (IMF 2007; IFSWF 2008; NRG1 2014; Gelb, Tordo, and Halland 2014), so in this

¹³ For example, increased budget disclosure and participation are consistently associated with improvements in the quality of the budget and governance and development outcomes (De Renzio and Wehner 2015). There is evidence that greater fiscal transparency is associated with higher sovereign credit ratings (IMF 2012a).

chapter it is only possible to provide some key specific suggestions that emerge from country experiences and best practices in fiscal transparency.

- *Key governance principles.* The objectives of the fund should be well defined and aligned with overall fiscal policy objectives. They should allow outsiders to assess fund performance against those objectives. The governance framework of a fund should be sound and clear, with well-defined roles, lines of responsibility and accountability, and mutual relationships. The organizational structure of the fund should clearly distinguish decision-making by the owner from operational implementation. The fund's internal management and control structure should be clearly specified and disclosed, with managers accountable for investment performance.
- *Asset management.* Fund assets should be managed in line with a transparent investment strategy that should be published and with clear governance arrangements. Management agreements should be spelled out and published, including reporting requirements. Benchmark portfolios for the eligible asset classes that provide the standard against which actual fund performance is measured should be defined and made public.
- *Off-budget activities.* For any fund allowed to spend off-budget, legislation should indicate the purpose of such spending and the coordination mechanisms with the budget, and establish parliamentary scrutiny. Fund spending should be subject to the same scrutiny, accountability, and reporting requirements as budget expenditure. The fund should provide information on any activities the government requires it to undertake and the expenditures involved. These activities should be reported distinguishing them from the fund's commercial investment.
- *Reporting.* Strict reporting requirements should be in place and complied with. The fund should publish annual and quarterly reports in accordance with a publication calendar. The reports should include information on the principles and operational rules governing the fund; fund governance; the fund's budget; fund operations (inflows, outflows, expenses); the investment policy; benchmarks for each asset class; fund investments; the asset portfolio, with relevant breakdowns; holdings of individual assets; returns on the assets by asset class and for the overall portfolio; and comparisons of investment performance to the benchmarks.
- *Accounting and audit.* The fund's financial statements should be prepared according to International Financial Reporting Standards

or equivalent national accounting standards. The annual financial statements should be externally audited in accordance with the International Standards on Auditing. The financial statements and audits should be published.

- *Budget documentation.* Budget documents and fiscal reports should provide information on the fund's balance sheet, operations, plans, and projections. They should also present and discuss consolidated fiscal data on the fund in order to provide a comprehensive picture of public finances.

Pressures for greater SWF transparency from multilateral institutions, donor countries, markets, international nongovernment organizations, and, at the country level, political groups and civil society, have intensified over the past decade, prompted in part by the rapid growth of opaque SWFs about which, in many cases, little was known.

International initiatives to strengthen SWF transparency included the formulation of the Santiago Principles by a group of countries that came together in an international working group. The Santiago Principles are a set of 24 generally accepted principles and practices aimed at guiding the legal, institutional, transparency, governance, and risk-management frameworks of SWFs. The International Forum of Sovereign Wealth Funds (IFSWF), a global network of SWFs, adopted the Santiago Principles, and to date 30 members have endorsed them, with many providing self-assessments (IFSWF 2008).

SWF transparency and governance have improved in the last decade, but progress has not been uniform and fund transparency is often still inadequate. Resource funds tend to score lower in transparency indicators than the SWFs of other countries at similar levels of development, and the indices tend to be correlated with the income level of the countries (Table 6.2).

Table 6.2. Average Sovereign Wealth Fund Transparency Indices by Income Group and Type of Country, 2015

	Resource-Exporting Countries	Other Countries	All Countries
High-income countries	6.6	9.0	7.3
Upper-middle-income countries	5.2	6.7	5.7
Lower-middle-income countries	4.8	—	4.8
All countries	6.0	8.0	6.5

Sources: Sovereign Wealth Fund Institute (SWFI) and author's calculations. Reproduced from Ossowski and Halland (2017).

Note: This table uses the SWFI Linaburg-Maduell Transparency Index for 54 sovereign wealth funds for the second quarter of 2015. The index ranges from 1 (lowest transparency) to 10 (highest transparency).

6.3. Resource Funds in Resource-Rich Caribbean Countries

All three resource producers in the region (including Guyana, a novel oil producer) have resource funds in place. Trinidad and Tobago's Heritage and Stabilization Fund was established in 2007. The funds in Guyana (Natural Resource Fund) and Suriname (Savings and Stabilization Fund) are very recent. This section briefly sets out the country context, reviews the funds, and provides suggestions for improvement.

6.3.1. Guyana

Guyana has recently become an oil-producing country. Significant offshore oil discoveries have been made since 2015. Recoverable oil reserves are estimated at more than 8 billion barrels of oil, with substantial upward potential. This places Guyana near the top of the league in terms of recoverable petroleum reserves per capita (NRGI 2018). Commercial production has been in place since the beginning of 2020. The IMF has projected that largely as a result of oil production, GDP per capita could double from US\$4,600 in 2018 to US\$9,200 in 2023 (IMF 2018c).

Fiscal oil revenues are projected to surge in the medium term.¹⁴ They could reach close to 10 percent of (a much larger than current) GDP by 2023. Furthermore, given the structure of the production-sharing agreements, the government's share of total oil revenues will increase starting in the second half of the 2020s.

Initial oil production started at about 80,000 barrels a day (b/d) in 2020, and it was previously projected to rise to about 300,000 b/d by 2025 (IMF 2018c). Output was expected to peak at that level for a few years before gradually declining back to 100,000 b/d by the mid-2030s (IMF 2018c). More recent projections, however, suggest the prospect of significantly higher production volumes (750,000 b/d by 2025/2026) and a longer production period (ExxonMobil 2019; see also Chapter 5).

Oil revenues—which will be uncertain, volatile, and relatively short-lived, and which could lead to strong spending pressures—will add to the difficulties of conducting fiscal policy. The government will need to foster macroeconomic stability, ensure fiscal sustainability, aim for an equitable intertemporal distribution of oil wealth, and meet developmental

¹⁴ The country macroeconomic and fiscal data and projections in this section are drawn from the IMF's April 2019 World Economic Outlook database and from IMF Country Reports.

objectives considering its institutional capacity. The time-bound nature of the resources puts a premium on their good use.

The looming start of significant oil production makes the establishment of sound fiscal institutions adapted to that new reality a top priority. In this regard, it is essential that Guyana put in place a macroeconomic and fiscal framework as suggested in Chapter 5. In particular, there is no published medium-term fiscal framework. Although the budget document for 2019 includes indicative budgets for the following three years, fiscal policy is not guided by formal medium-term objectives. Budget formulation focuses on annual budgets. The government's development plan document indicates that budget operations must transition to a medium-term expenditure framework.

The Natural Resource Fund

Guyana recently established an SWF in anticipation of future oil revenues. The Natural Resource Fund (NRF) was created by law in early 2019 and includes the following features:

- *Purpose and objectives.* The purpose of the fund is to effectively manage the natural resource wealth of Guyana for the present and future benefit of the people. The fund has four objectives: avoid volatile public spending, protect economic competitiveness, transfer natural resource wealth fairly across generations, and use this wealth to finance national development priorities.
- *Deposits.* The fund will receive petroleum revenues and the returns on its investments. It will also receive mining and forestry revenues when the prices of those resources are higher than specified triggers.
- *Withdrawals.* Transfers from the fund to the budget will be proposed by the Ministry of Finance and must be approved by the National Assembly. They will be earmarked for national development priorities and mitigation of major natural disasters. The maximum withdrawal will be determined by formulas. Two periods are distinguished:
 1. Up until the time when 3 percent of the size of the fund reaches a specific threshold designated in a formula, the maximum annual withdrawal will be determined by a complex set of formulas. Those formulas involve the calculation of benchmark oil prices based on a moving average of past prices and forecasts of future prices, estimates of oil production, non-oil revenues, and the NRF's balance.

2. If in any past year 3 percent of the fund's balance has exceeded the specified threshold, the maximum withdrawal for all future years thereafter will be limited to 3 percent of fund assets.
- *Asset management.* The law specifies the eligible asset classes in which the fund may be invested: eligible bank deposits with foreign financial institutions, treasury bills, sovereign bonds, corporate bonds, equities, and derivatives. Minimum ratings are specified for financial institutions (bank deposits) and sovereign credit ratings (treasury bills). For sovereign and corporate bonds and equities, eligible assets must be included in various international indices. The law mandates holding only foreign assets. It also requires holding only very safe assets (as defined in the law) when the fund's balance is lower than specified thresholds.
 - *Institutional features.* The Minister of Finance will be responsible for overall management of the fund and will delegate its operational management to the Bank of Guyana. The minister is required to set out the fund's investment policy on advice from an Investment Committee. The law sets out accounting, disclosure, reporting, and internal and external audit requirements for the fund. A Public Accountability and Oversight Committee (PAOC) consisting of 22 members nominated by civil society groups will be established. It will be charged with monitoring and evaluating compliance with the law and managing the fund in line with good practice transparency and governance standards, assessing management of the fund and the use of the withdrawals, and facilitating public consultations on fund management and use of withdrawals.

Assessment and Options for Reform

Objectives of the fund and inflow and outflow rules

The objectives and design of the NRF raise several issues. The fund on its own cannot achieve the objectives that have been set for it. The rigid withdrawal rules may do little to foster stabilization or saving but may entail fiscal costs.

The fund's stated objectives (stabilization, competitiveness, saving, and development) transcend what the fund's operations can achieve. This is because attaining or failing to attain those objectives will depend on overall fiscal policy rather than on the operations of the fund.

This is not an abstract issue because the specification of the fund's objectives raises the question of how performance of its management will be evaluated, particularly by the PAOC. First, how will the PAOC assess the

fund's performance against its current objectives? Second, since the Minister of Finance is responsible for the fund, if the objectives given to it are judged not to have been achieved, how would the PAOC assess responsibility and how would accountability be assigned between the fund and the Ministry of Finance? A principle of good fund design is that it must be possible for outsiders to assess fund management performance against clear and measurable objectives, and accountability to be properly assigned.

The statutory limitations on withdrawals from the fund are not enough to achieve its objectives. The withdrawal rule has little or no practical effect on the fiscal position and the achievement of the fund's objectives as long as the government can borrow or run down other assets to finance its fiscal policies. Compliance with the fund's rules would not be incompatible with volatile and procyclical fiscal policies, expansionary policies that contribute to "Dutch disease," or policies that do not generate fiscal savings, particularly given the projected size of the oil revenues.

The formula for the maximum permissible withdrawal in the initial period is among the most complex operational rules for a resource fund in the world. Its design departs from good practices. As discussed above, state-of-the-art advice based on international experience and good fiscal management principles emphasizes simplicity, flexibility, transparency, and close integration with the budget and public asset-liability management. The rule's complexity may also conspire against fiscal transparency and public understanding.

After the fund's assets have surpassed the specified threshold once, the maximum withdrawal evolves into a kind of "bird-in-hand" operational rule and greater simplicity is achieved (withdrawals are limited to 3 percent of fund assets, which appears to be related to the expected long-term return on fund assets in real terms of 3 percent). In fiscal contexts, the bird-in-hand approach allows only interest income from already extracted resources to be consumed.

But the similarity of the fund's withdrawal rule with bird-in-hand approaches to fiscal policy is deceptive. The fund's withdrawal rule is not a fiscal rule. It does not place formal restrictions on fiscal policy as fiscal rules do. The bird-in-hand rule for withdrawals might appear similar to Norway's approach, which also involves an annual limitation to use no more than 3 percent of the assets in the GPF-G. But in Norway this constraint is in the form of a fiscal guideline that applies to the structural non-oil primary deficit.

While the achievement of stated fund objectives lies beyond the scope of the withdrawal rules, the rules could hamper sound asset-liability management, with related fiscal costs to the extent that borrowing costs

are higher than the returns on the fund's assets.¹⁵ Limits on fund transfers given a certain non-oil fiscal policy could force the government to borrow. Or they could prevent repaying expensive public debt. These may not be sensible policies if use of the fund's assets would be a better option when all the dimensions of this question are considered. For example, public debt in the first few years of oil production (2020–2022) is projected by the IMF to remain above 50 percent of GDP, in a context of continuing fiscal deficits. It might be advantageous to use the initial oil revenues partly to repay some expensive debt and partly to build up low-yielding assets in the NRF. The government would benefit from having flexibility to choose sensible combinations of asset accumulation and debt repayment.

The NRF cannot be viewed in isolation from the rest of fiscal management. It is not a substitute for a prudent and credible fiscal framework. However, in the context of such a framework, a well-designed fund could play a valuable role in helping manage Guyana's public financial assets well, fostering transparency, and promoting public support for the good use of resource revenues.

Chapter 5 provides recommendations for establishing an effective and overarching fiscal framework in Guyana, including an expenditure rule to help address the inevitable expenditure pressures that will arise, a target path for the public debt, and a rolling medium-term fiscal framework. The role of the fund within such a framework would need to be reformulated to ensure that the fund supports implementation of that framework. Indeed, Chapter 7 of this volume provides objective measurements of the potential benefits derived from implementing the recommended frameworks.

Two key issues should be considered: (1) reformulating the fund's objectives in terms of desirable and measurable results that fund management can achieve and (2) reforming the fund's operational rules and closely aligning them with the budget to help fiscal management.

Since the objectives currently assigned to the NRF are overall fiscal policy goals, it would be straightforward to reformulate them. The aim of the fund could be to contribute to stabilization and saving and maximize risk-adjusted financial returns subject to the investment policy set by the government. This would also allow for a clear assessment of fund performance against the asset maximization objective.

In the context of a comprehensive fiscal framework, the rules for transfers from the fund should provide for effective integration of the fund with

¹⁵ Current borrowing costs in Guyana benefit from the availability of concessional multilateral and bilateral financing. The concessional component of borrowing can be expected to decline over time as Guyana's national income rises as a result of oil production and economic development.

the budget. This has the implication that the fund's rigid withdrawal rules would need to be replaced by flexible rules, for reasons explained in Section 6.2.

Thus, in line with best practice, the NRF could be a financing fund well integrated with fiscal policy and asset-liability management. Such a fund would avoid the problems identified above. It would not impose inefficiencies and rigidities on asset-liability management. It would devolve the focus of fiscal policy design and implementation to the budget in the context of the overarching fiscal framework.

Specifically, the fund's transfer to the budget could finance the budget's non-oil deficit in its entirety. The fund would receive the oil revenue and finance the budget's non-oil deficit plus debt amortization. The feasibility of this approach will depend on whether fiscal surpluses are recorded and their magnitude, as sufficient resources must be built up in the fund. Norway's GPF-G only started operations once the fiscal position shifted to surpluses. Alternatively, in the case of overall budget deficits, the Ministry of Finance could flexibly decide on transfers from the fund taking into account the circumstances and asset-liability management objectives, as in Chile. This flexibility would also help to take a more integrated approach to government asset and liability management.

Transfers from the fund would preferably not be earmarked for any specific purpose. Money is fungible, and it would be better not to distract attention from the fund's fundamental asset value maximization objective.

Selected asset management, governance, transparency, and accountability topics

The fund should be explicitly required to maximize the risk-adjusted return on its assets subject to the government's investment policy, and to base investment decisions solely on an economic and financial basis. These are important good practice principles for an SWF.

The law should indicate that the Bank of Guyana as operational manager will implement the fund's investment strategy in an independent manner. The operational manager should be charged with maximizing asset value as recommended above and should be formally and effectively granted independence in making investment decisions, free from political interference, subject to the Investment Mandate laid down by the government. This principle fosters efficient asset allocation and assigns accountability to the fund's operational manager.

There should be an explicit framework for risk management. The framework should include provisions to identify, assess, report, and manage financial and operational risks to the fund.

The law includes requirements to hold only very safe and liquid assets when the balance in the fund is low as defined in the law. Several cases are identified depending on the size of fund assets relative to specified thresholds. It is not clear whether these thresholds have been set based on a quantified analysis of risks. Indeed, the optimal amount of safe assets will evolve with time and circumstances. The fiscal position can be expected to become increasingly exposed to revenue shocks over time, because the share of oil revenues in total government revenues will rise during the period of growth of oil production, all else held constant.

Instead, the share of the fund that should be held in very safe assets could be set based on quantified risk analysis and optimal risk management. The fund's portfolio could be split into a stabilization pool (an optimal stabilization buffer estimated along the lines discussed in Section 6.2) with liquid, low-risk assets, and a savings pool with higher risk tolerance.

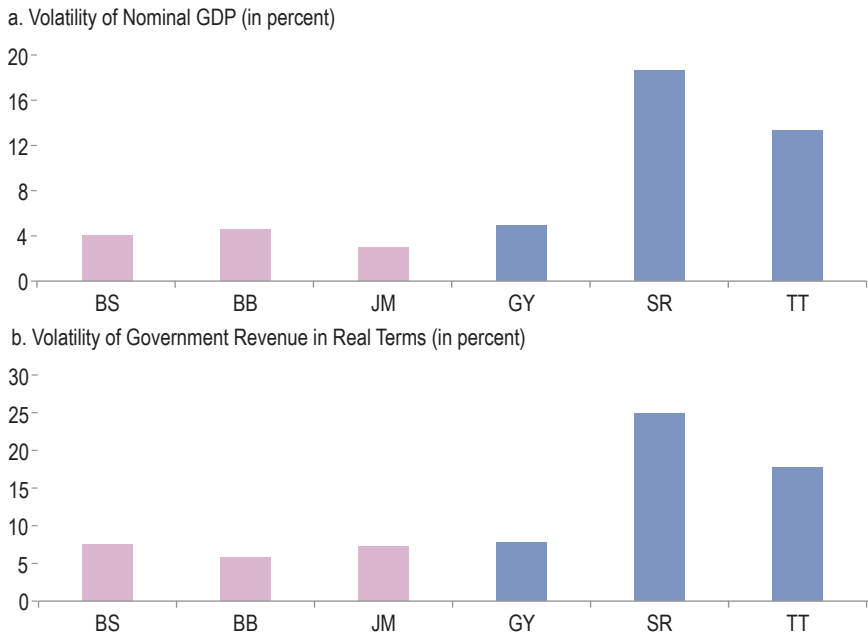
The commendable provisions in the law for the fund to hold only foreign assets should be tightened. The fund's resources should not be invested in any instrument issued by a bank, corporation, or individual resident in Guyana, or owned or controlled by a national of Guyana or a company registered in Guyana. This would protect the fund more effectively, as intended in the law, from being used to spend domestically off-budget.

Aspects of the oversight function of the PAOC should be clarified. Will the PAOC have the technical capacity to conduct the thorough compliance reviews envisaged? As noted above, how will the PAOC assess the fund's performance against its objectives? As regards enforcement powers, the law mentions binding decisions of the PAOC, but the binding nature of such decisions is not explained. The law should indicate who will be bound by a PAOC decision and under what circumstances, as well as indicate what processes such a decision should trigger.

6.3.2. Suriname

Suriname's mineral resource wealth is comprised mainly of oil, gold, and bauxite. At current production rates (about 17,000 b/d), proven reserves of oil (87 million barrels) suggest that oil production will last until the early 2030s (IMF 2018f).¹⁶ Additional offshore discoveries of oil are likely. The

¹⁶ However, as of July 2020, the Apache Corporation and Total companies announced three "significant" oil discoveries off the coast of Suriname. The amounts are yet to be confirmed but Rystad Energy estimated that the recent oil discoveries could be about 1.4 billion barrels of oil equivalent resources, which could significantly increase the country's proven oil reserves currently estimated at 87 million barrels.

Figure 6.4. Volatility of GDP and Government Revenue, 1997–2018

Sources: International Monetary Fund, April 2019 World Economic Outlook database; and author's calculations.

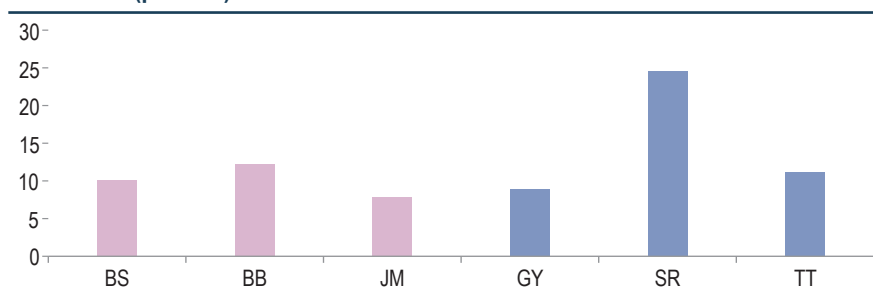
two main gold mines (Rosebel and Merian, operated by foreign companies) contribute about two-thirds of gold production, with small-scale producers contributing the rest. Current gold reserves are expected to last until the mid-2030s. Bauxite production stopped in 2015.

Oil and gold production are the mainstays of the economy. In 2017, oil and gold exports were equivalent to 58 percent of GDP and accounted for 88 percent of total exports.

The economy of Suriname is highly volatile. The volatility of the country's nominal GDP (measured by the standard deviation of annual percentage change) is more than four times higher than in the other nonresource producers included in this study (Figure 6.4, panel a). Macroeconomic volatility in Suriname reflects to a large extent the volatility of export proceeds in a context of significant export concentration and the large share of the sector in total value added.

Suriname's public finances are highly dependent on resource revenues. The average share of those revenues in central government revenues over 2010–2018 was 30 percent. Resource revenues averaged 7 percent of GDP. Oil revenues contributed about 60 percent of total resource revenues.

Figure 6.5. Volatility of Government Expenditure in Real Terms, 1997–2018 (percent)



Sources: International Monetary Fund, April 2019 World Economic Outlook database; and author's calculations.

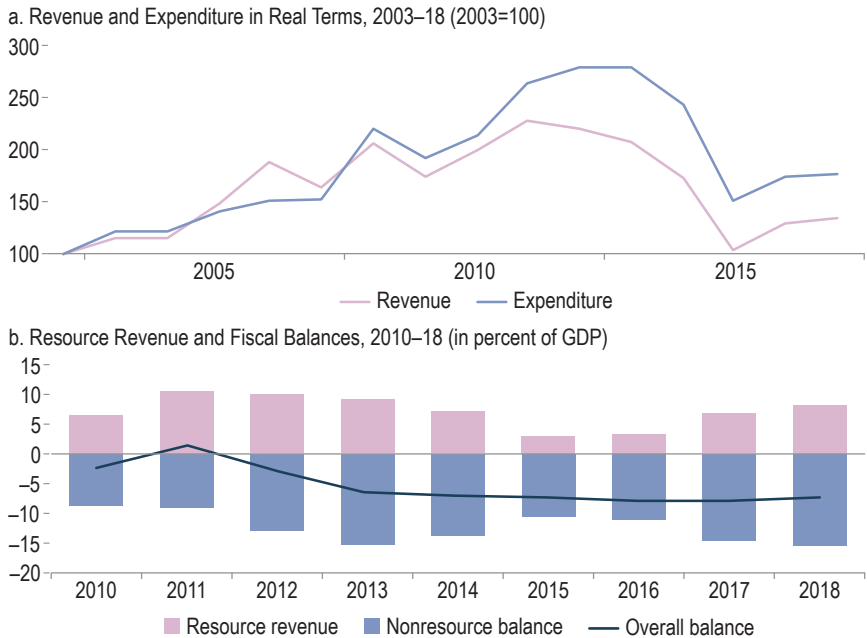
Resource revenues have fluctuated widely from 3 to 11 percent of GDP over 2010–2018. This volatility imparts significant volatility to total revenues. The volatility of Suriname's central government revenue in real terms, at 25 percent, is the highest of the six Caribbean countries in this study (Figure 6.4, panel b).

Central government expenditure has been very volatile. The volatility of Suriname's expenditure in real terms, at 25 percent, has been the same as the volatility of revenue, and is the highest among the countries in this study (Figure 6.5).

Government expenditure has also been highly procyclical, following revenue in upswings and downswings (Figure 6.6, panel a). The central government's nonresource balance has reflected the procyclicality of expenditure (Figure 6.6, panel b). The volatility and procyclicality of government expenditure may have contributed to the substantial macroeconomic instability discussed above.

By 2013, on the eve of the 2014–2015 oil price crash, the increases in expenditure during the resource price upswing (Figure 6.6) had left Suriname's fiscal position vulnerable to exogenous shocks. The government was running an overall deficit of 7 percent of GDP despite elevated oil prices (although gold prices had been declining since 2012), and the debt had doubled in four years to 30 percent of GDP.

The oil shock and the coincident closure of the country's aluminum refinery in 2015, superimposed over earlier declines in gold revenue, hit the Surinamese economy and the fiscal accounts hard. Real GDP fell by a cumulative 8.5 percent in 2015–2016. The currency depreciated steeply, reserves fell to the equivalent of two months of imports, and annual inflation surged to 79 percent in October 2016. The fiscal balance deteriorated further, recording deficits of 8–9.5 percent of GDP.

Figure 6.6. Suriname: Cyclicality of Fiscal Policy

Sources: International Monetary Fund, April 2019 World Economic Outlook database; IMF Country Reports; and author's calculations.

After four years of lower oil prices and no aluminum production, and despite fiscal adjustment efforts, government debt by 2018 had surged to 70 percent of GDP, partly as a result of the impact of the steep depreciation of the currency in real terms on the domestic currency value of government external debt.¹⁷ Within its debt sustainability assessment, the IMF noted significant debt profile vulnerabilities, with most debt indicators exceeding their upper early-warning thresholds, and high risks of various shocks (IMF 2018e). Indeed, the IMF has projected that the debt ratio will increase to 145 percent of GDP by end-2020 mostly due to a steep devaluation of the currency in September 2020 and a 13.1 percent projected decline in real GDP.

The Savings and Stabilization Fund

In 2017, the government enacted legislation establishing the Savings and Stabilization Fund of Suriname (Spaar-en Stabilisatiefonds Suriname, SSF),

¹⁷ Public debt is higher. It includes a loan taken by the state oil company in 2018 equivalent to 18 percent of GDP.

with plans to operationalize the fund in 2019. The main features of the fiscal framework and the main elements of the SSF legislation are as follows:

- *The fiscal framework.* The Debt Act limits public debt to 60 percent of GDP. An escape clause to the ceiling was enacted in 2017. It allows temporary suspensions of the ceiling in cases of declines in GDP and/or depreciation of the currency and sets limits to the deficit in those circumstances. The applicability of the escape clause ends when debt has returned to 60 percent of GDP. A medium-term fiscal framework covering the current year and the next five years is produced twice annually by the Ministry of Finance.
- *Purpose and objectives of the fund.* The aims of the SSF are to stabilize government revenues in order to reduce the effects of macroeconomic volatility and protect revenues at times of low resource revenues, generate an alternative flow of income to diversify and supplement government revenues, and generate revenue for future generations by saving public resource revenues.
- *Deposits into the fund.* Deposits into the fund are to be made when actual resource revenues in a given year are higher than budgeted resource revenues. The law sets forth how resource revenues are to be budgeted for the next year. If resource revenues are expected to increase, budgeted resource revenues will be set at the level of those in the current year plus the average rate of growth of GDP in real terms in the last 10 years.¹⁸ If actual resource revenue in the base year is lower than budgeted, the adjustment factor for the next year is applied to actual revenue in the base year. If revenues are expected to decrease, budgeted resource revenues will be set at the level of those in the current year minus one-half of the average rate of growth of GDP. During budget execution, if cumulative resource revenue is higher than budgeted, the difference is to be deposited in the SSF on a quarterly basis.
- *Withdrawals from the fund.* No withdrawals are allowed during the first five years following enactment of the law (i.e., until 2022). Thereafter, withdrawals are allowed if actual resource revenue in a given year is less than 25 percent of the budgeted resource revenue, in which case the fund can transfer to the budget up to

¹⁸ In one of the sections of the relevant article in the law, this is set at 3 percent. Elsewhere in the article, reference is made to the 10-year average rate of growth, implying that the adjustment factor may evolve over time.

one-half of the shortfall, but the withdrawals are capped. If the fund's assets at the beginning of the year are lower than US\$100 million, the transfer is capped at 5 percent of fund assets. If assets are between US\$100 million and US\$500 million, the cap is set at 10 percent, and if assets are higher than US\$500 million, the cap is set at 15 percent. The fund will transfer 25 percent of its investment income to the budget. The SSF may make transfers to the budget in the case of a national disaster if damage is greater than 3 percent of GDP, subject to the caps just mentioned.

- *Asset management.* The fund cannot invest in debt securities or shares in private or public companies operating in Suriname or assets in domestic or nonconvertible currencies, except for incidental, indirect investments in fixed-income securities or shares in funds that are listed and traded on stock exchanges outside Suriname. It cannot invest in the direct or indirect financing of public bodies, commodity-related assets, or derivatives (except to reduce the fund's risk).
- *Institutional features.* The fund will have a Board of Directors appointed by the government and comprised of five members. The chairman will be appointed by the government. The other members will be appointed on the recommendations of the Ministry of Finance, the Central Bank, the trade union movement, and the business community, with all members serving five-year terms that can be renewed once. The board's tasks include specifying the fund's investment strategy (to be approved by the Ministry of Finance) and the guidelines for its operational management, as well as reporting and publishing information on the fund's operations. The Central Bank will be the operational manager of the fund. The government is required to review fund operations and issue a report to the National Assembly every three years. The law covers the fund's disclosure, reporting, and audit requirements.

Assessment and Options for Reform

It is difficult to make a case for a resource fund in Suriname under current circumstances and in the foreseeable future. The SSF seems to fit into the category of "premature funds" discussed above. Specifically, a country with high public debt and deficits like Suriname should think twice before establishing a fund, particularly one with rigid operational rules. International experience suggests that funds set up under unfavorable initial conditions and with unrealistic expectations tend to underperform and possibly fail.

The design of the accumulation and withdrawal rules is likely to pose complications to asset and liability management and create dilemmas for policymakers. The rules are unlikely to offer much support for the implementation of sound fiscal policies.

Transfers to and from the fund will depend on whether at the time of budget formulation increases or decreases in resource revenues are “expected,” and on the actual behavior of resource revenues during budget execution. The law is silent on the factors that would be used to define the formation of those expectations and the procedures that would be used to govern them. In the absence of a clear and transparent procedure to set budget resource revenue for the following year, this could provide incentives to “game” the setting of that revenue depending on other objectives. Over time, such practices could entail credibility costs.

The draconian stringency of the rule for withdrawals from the fund imparts a strong bias towards the accumulation of resources in it, effectively turning the fund into a savings fund.¹⁹ Barring major events in production, it is highly unlikely that revenues would fall by more than 75 percent from one year to the next.²⁰ This also implies that, for all intents and purposes, the fund will not be able to be used to provide resources to the budget in situations where it might make sense from an asset-liability management point of view to have recourse to the fund. Moreover, the SSF could mandate deposits in a context of budget deficits and/or when government debt is rising.

These considerations are particularly critical given the public finance situation in Suriname. In recent years the public debt has increased to levels that have raised vulnerability concerns. In its most recent fiscal projections, the IMF envisages continuing fiscal deficits on the order of 5–8 percent of GDP through the mid-2020s and government debt remaining at elevated levels. The projections already assume a fiscal adjustment of 3.5 percentage points of GDP in the nonresource primary balance over the four years up to 2023.

In these circumstances, the key issue is how deposits into the SSF will be funded, and at what cost. Suriname’s sovereign debt is rated noninvestment grade. Given the country’s debt levels, the marginal cost of the additional debt necessary to finance the transfers to the fund could be considerably higher than the returns on the fund’s assets.

¹⁹ This assumes that the formation of the expectations about the evolution of resource revenues for the following year is unbiased (e.g., by using futures prices).

²⁰ In the 48 years since 1971, the annual average international price of oil has never declined by three-quarters. It declined by close to 50 percent twice, in 1986 and 2015. The two largest annual declines in the price of gold in the last hundred years were on the order of 30 percent, in 1981 and 2013.

For example, if resource revenue were to be underestimated in a given year by 15 percent—a forecasting error well within the realm of possibility given that the standard deviation of the change in annual oil prices is about 25 percent—at current resource revenue levels (about 8 percent of GDP) the government would be required to place the equivalent of about 1 percent of GDP in the SSF. This would add to the debt, as the budget would remain in deficit.

These potential costs do not appear to be outweighed by likely benefits, because the operations of the fund are not linked to fiscal policy. They do not necessarily encourage fiscal stabilization or prevent inappropriate expenditure increases as long as the government is not liquidity-constrained or can run down assets.

If there is a desire to keep the SSF, consideration could be given to modifying it to reduce its potential fiscal costs. This could be done, for example, in the context of a periodic SSF review required by the law. Specifically, accumulating assets in the SSF while borrowing at high cost should be avoided, and the fund's rules should permit paying down expensive debts, rather than building up gross assets, if so desired.

Therefore, much would be gained from introducing significant flexibility into the system of deposits and withdrawals. The transfers to and from the fund could be determined in the context of annual budgets. If the fiscal framework recommended in Chapter 5 that focuses on a target path for the debt were to be put in place, it would be even more critical to introduce substantial flexibility in the fund to allow for appropriate asset-liability management in line with the chosen debt path.

The key objective of the fund could be to maximize asset value subject to the investment mandate of the government. This would permit objective assessments of the performance of the board that will manage the fund as well as the fund's operational managers.

In addition to annual reporting, quarterly reporting should be introduced. Once the investment guidelines are issued, benchmark portfolios for the eligible asset classes should be defined and published. Quarterly and annual reports should provide information on investment performance against the benchmarks.

6.3.3. *Trinidad and Tobago*

The petroleum sector is key to Trinidad and Tobago's economy. The sector's average share of GDP over 2010–2017 was about 30 percent. Exports of petroleum and petroleum products have accounted on average for over 80 percent of total exports. At current production levels, however, and barring new discoveries, the production horizons for oil and natural gas are short.

Crude oil production has been on a declining trend, mainly reflecting maturing oil fields and technically challenging and expensive development of new fields. Production fell by 40 percent in the 10 years leading up to 2017, declining to 72,000 b/d. At current production levels, proven reserves are projected to last about seven years (BP 2018).

Trinidad and Tobago is a leading exporter of liquefied natural gas and petrochemicals. This followed major investments in the 1990s and early 2000s, including an extensive natural gas pipeline network, liquefaction facilities, and petrochemical plants. Natural gas production peaked in 2010 and gradually declined before picking up somewhat recently. Proven reserves are estimated to last about eight years at current output levels (BP 2018), while proven and probable reserves were estimated in 2017 to last about 14 years (Douglas 2019). There is also substantial potential in unexplored offshore areas.

The economy of Trinidad and Tobago is the second most volatile economy among the six countries studied here after Suriname (Figure 6.4). The volatility of nominal GDP, about three times higher than in the non-resource-producing countries, is largely related to fluctuations in the petroleum sector.

The nonpetroleum economy, however, is also quite volatile. The volatility of nonpetroleum GDP in Trinidad and Tobago is higher than the volatility of GDP in the nonresource-producing countries in this study, as petroleum-related volatility is transmitted to the nonpetroleum sector.

The central government is highly dependent on volatile revenues from the petroleum sector. In 2010–2017, petroleum revenues on average constituted almost 50 percent of total revenues. As in the case of nominal GDP, the volatility of government revenue is the second highest in the country group after Suriname (Figure 6.4). This is due to the massive volatility of petroleum revenues, which in the 20 years prior to 2017 was close to seven times higher than the volatility of nonpetroleum revenues.

The central government accounts were severely hit by the crash in petroleum prices that started in the second half of 2014 (IMF 2018g). Petroleum revenues fell by 11 percentage points of GDP from 2014 to 2016, or by more than two-thirds, and stayed at those depressed levels in 2017. This adverse development was met by a strong tightening of fiscal policy. Expenditure was reduced by 13 percentage points of nonpetroleum GDP in three years. Despite the fiscal adjustment, the central government deficit surged to 11–12 percent of GDP in 2016–2017, according to the IMF. Reflecting these developments, public debt rose by 40 percentage points of GDP to 80 percent of GDP in 2020.

The Heritage and Stabilization Fund

The HSF was established by law in 2007. It replaced the earlier Interim Revenue Stabilization Fund (IRSF) that had been operational for seven years. While the IRSF had purely stabilization objectives, the HSF was given stabilization and savings objectives. The main characteristics of the fiscal framework and the HSF are the following:

- *The fiscal framework.* Fiscal policy is not guided by formal medium-term objectives and there is no published medium-term fiscal framework. Budget formulation focuses on annual budgets. The 2019 Budget Statement announced the future implementation of a macroeconomic and fiscal framework and the establishment of medium-term fiscal objectives as an integral part of fiscal management.
- *Purpose and objectives of the fund.* The HSF's purpose is to save and invest surplus petroleum revenues. The fund has stabilization and long-term savings objectives. In terms of stabilization, it aims to cushion the impact of revenue downturns caused by falls in the prices of oil or natural gas and help sustain expenditure during such periods. In terms of savings, the fund aims to generate a store of wealth that will generate income to support expenditure when revenue declines as a result of the depletion of petroleum resources.
- *Deposits into the fund.* In principle, deposits are to be made contingent on specified petroleum revenues during budget execution being higher than a threshold (the “estimated petroleum revenues”). Those estimated revenues are to be calculated based on an 11-year moving average of oil and natural gas prices with a 5/1/5 structure, that is, actual prices for the past five years, and projected prices for the current year and next five years. The formulation of the deposit rule in the law is unclear. One article states that for any quarter of the budget year when petroleum revenues are higher by more than 10 percent than the estimated petroleum revenues for that quarter, the excess must be deposited in the fund. If the excess in the quarter is less than 10 percent, the Minister of Finance has discretion in determining deposits. But another article indicates that if there are excess revenues during a budget year, a minimum of 60 percent of the annual excess must be deposited.
- *Withdrawals from the fund.* When petroleum revenues in a financial year are less than the estimated petroleum revenues for that

year by at least 10 percent, withdrawals can be made from the fund, up to the lesser of 60 percent of the shortfall, or 25 percent of the fund's balance at the beginning of that year. No withdrawal that would cause the fund's assets to fall below US\$1 billion can be made. Since the period considered is the financial year, withdrawals are only permitted in the year following the shortfall in revenue.

- More recently, however, because of the COVID-19 pandemic, new withdrawal rules were approved in March 2020 through an amendment to the HSF Act. The new rules allow for withdrawals in the following exceptional circumstances: (1) if a disaster area is declared under the Disaster Measures Act; (2) if a dangerous infectious disease is declared under the Public Health Ordinance; or (3) if there is, or is likely to be, a precipitous decline in budgeted revenues which are based on the production or price of crude oil or natural gas. The new amendment also limits withdrawals to US\$1.5 billion per financial year. In any given financial year, withdrawals can be made under both the new withdrawal rules, as well as the original withdrawal rules as it pertains to the shortfall in petroleum revenues, if the necessary conditions exist.
- *Asset management.* The HSF's SAA was established in 2008, and after a transition period, the portfolio was brought in line with the SAA in 2011. The SAA mandates that 65 percent of fund assets be invested in fixed-income securities (split into U.S. core fixed income with 40 percent and U.S. short-duration fixed income with 25 percent) and 35 percent into equity (split evenly into U.S. and non-U.S. equity). The HSF has established benchmarks (market indices for all asset classes) against which the fund's performance is assessed. There is a framework of operational and investment guidelines to guide the management of the fund and its investments. The HSF has no domestic investments.
- *Risk management.* The fund has an established financial risk management policy. It includes margins for each asset class to allow for some active management, and risk budgets for each asset class defined as a target annualized tracking error against the benchmark. Information on risk mitigation policies for risks such as credit risk and concentration risk is provided in the financial statements.
- *Transparency.* The HSF's reporting has been generally transparent. The HSF has reported on its operations and performance by means of quarterly and annual published reports. Annual reports include information on the fund's purposes, governance, rules for

deposits and withdrawals, overview of activities, inflows and outflows, portfolio composition and performance (broken down by asset class) against the benchmarks, income and assets, compliance and portfolio risks, expenses and liabilities in the financial statements, and risk profile and risk mitigation policies. Quarterly reports provide information on the value of assets and portfolio performance. However, neither estimated petroleum revenue calculations nor the actual petroleum revenues underpinning the deposits and withdrawals are published. The fund's annual financial statements are externally audited and published together with the auditor's report.

- The HSF is ranked relatively high in scoring systems developed for the assessment of SWF transparency and governance.²¹ The fund has been a member of the IFSWF since 2012 and has produced a self-assessment using the Santiago Principles as a benchmark.
- *Institutional features.* The governance of the fund is clear. The HSF is governed by a five-member board, appointed by the president on advice from the Minister of Finance. The board is responsible for managing the fund. It decides on the fund's investment objectives and determines the fund's operational and investment guidelines. It reviews the performance of the fund and submits regular reports on investment performance to the minister. The minister approves deposits and withdrawals. The day-to-day management of the fund has been delegated to the Central Bank of Trinidad and Tobago (CBTT), which must invest the fund's assets in accordance with the investment guidelines established by the board and produce regular reports for the board. The functions of the CBTT are established in the law. The CBTT uses external fund managers to invest part of the portfolio. Parliament has ultimate oversight of the fund, as it reviews the annual reports and financial statements. The law mandates that the Minister of Finance review the HSF legislation every five years and submit a report to Parliament, but to date no such review has been carried out.

²¹ The HSF scored 74 out of 100 on the Natural Resource Governance Institute Resource Governance Index (NRGI 2017). The Linaburg-Maduell Transparency Index, which assesses 10 principles of SWF transparency, assessed the HSF at 7 out of 10 in May 2019 (SWFI 2019). The Truman SWF scorecard also assesses governance, accountability, and behavior in addition to transparency, and the HSF scored 81 out of 100 on that scorecard in 2015 (Stone and Truman 2016).

Performance, Assessment, and Options for Reform

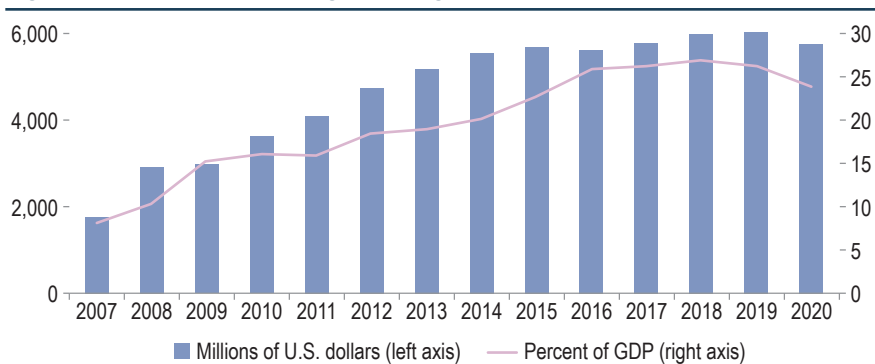
The assets of the fund increased quickly after its establishment and had stabilized up to year 2019. The fund's asset value in September 2019 was US\$6.2 billion, equivalent to about 26 percent of GDP (Figure 6.7). Deposits into the HSF were made in most years during the long petroleum boom that ended in 2014. Three withdrawals, equivalent to 1.7, 1.2, and about 4 percent of GDP were made in fiscal years 2016, 2017, and 2020 respectively. Annual returns on the fund's assets have averaged 1.4 percent of GDP since 2012. Withdrawals during year 2020 totaled US\$980 million by September and the fund's asset value decreased to US\$5.7 billion (Figure 6.7).

The lack of a link between the HSF's deposit/withdrawal rules and the overall fiscal position has had some implications for asset and liability management. In some instances, deposits into the HSF were made even though the budget was in deficit. In 2011–2013 deposits averaging 1 percent of GDP a year were made, while the budget deficit averaged 1.5 percent of GDP. The deposits had to be financed with borrowing.

As oil prices fell steeply in 2014–2015 and then stabilized at the lower level, large budget deficits on the order of 8–12 percent of GDP (as reported by the IMF) were recorded in 2015–2017. The deficits were financed largely by borrowing (Figure 6.8).

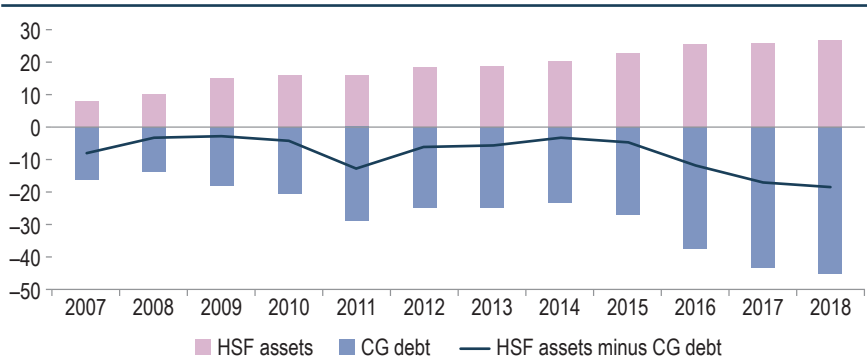
The annualized rate of return achieved by the HSF since its inception through September 2018 was 5.47 percent. This was higher than the corresponding return on the benchmark portfolio by 64 basis points. Annual rates of return have ranged from 0.8 percent (2011) to 10.7 percent (2012). The standard deviation of the annual rates of return was 3 percent.

Figure 6.7. Trinidad and Tobago: Heritage and Stabilization Fund Assets



Sources: Heritage and Stabilization Fund annual and quarterly reports; International Monetary Fund, April 2019 World Economic Outlook database; and author's calculations.

Figure 6.8. Trinidad and Tobago: Heritage and Stabilization Fund Assets and General Government Debt (percent of GDP)



Sources: Heritage and Stabilization Fund (HSF) annual and quarterly reports; International Monetary Fund, April 2019 World Economic Outlook database; and author's calculations.

Note: CG: central government.

The amendments to the withdrawal rules introduced in 2020 in the context of COVID-19, by increasing flexibility, are a welcome step. This process could be taken further. Consideration could be given to taking a more integrated view of government financial assets and liabilities and improving the HSF by incorporating it within a broader asset-liability management strategy and the government's balance sheet. For example:

- The HSF could be split into two pools of assets: an optimal pool of low-risk liquid assets for budget revenue stabilization purposes that could be combined with other forms of insurance if desired (along the lines discussed in Section 6.2), and a long-term savings component.
- It might make sense in some cases to use HSF assets to repay expensive government debt, taking all the dimensions of this question into account. The implied average interest rate on government debt in 2013–2017 is estimated to have been approximately 7 percent (derived from IMF data on debt stocks and interest payments).

The implementation of an integrated asset-liability management approach, or at least a more closely integrated approach, would require introducing flexibility into the HSF's inflows and outflows. Transfers to and from the budget would be determined by optimal risk and asset-liability management considerations, rather than by whether petroleum revenues in a given year are higher or lower than budgeted. This reform would be

particularly important if a debt anchor along the lines recommended in Chapter 5 for Trinidad and Tobago were implemented.

If there is a wish to keep the HSF in its current rigid-rule format, it would be important to clarify the rule for deposits into the fund. For transparency reasons, it would be useful to publish the computed estimated petroleum revenues and the data and calculations used to determine them, as well as the actual petroleum revenues that are compared to the estimated petroleum revenues to determine deposits and permissible withdrawals.

6.4. Conclusions and Policy Recommendations

Sovereign wealth funds have been established in a variety of countries with differing circumstances. Many resource-exporting countries use resource funds to help fiscal and asset management. The rationale for setting up a fund should be carefully considered. Are the initial conditions right? How will deposits into the fund be financed? Do potential benefits outweigh potential costs?

Funds with rigid inflow and outflow rules are best avoided. Their benefits are uncertain, but they can generate fiscal costs. Efforts at fiscal discipline should be made where they belong: in the arena of the budget and the fiscal framework. Funds with flexible rules are much preferred, with optimal liquidity pools to address financing risks to the budget if desired.

The best approach is not to grant resource funds the authority to spend for public policy purposes. Governments should uphold the integrity of the budget. Funds that spend off-budget should be closely integrated with the budget process in order to preserve unified fiscal control. Funds that invest in domestic financial assets based on commercial principles should be free from political interference and subject to rigorous and enforced reporting requirements.

The assets managed by a resource fund are part of the sovereign balance sheet. Fund management should be directed to maximize fund asset value subject to the government's investment mandate. Resource producers with government debt that have hitherto managed fund assets largely as a separate pool could make efforts to better integrate fund asset management with government asset-liability management.

Stringent transparency, governance, and accountability mechanisms for a fund are essential to avoid corruption and political capture, ensure that public assets are properly managed for the benefit of current and future generations, and promote informed public support for the fund.

There is scope for improvements in the resource funds of the countries included in this study. Guyana and Trinidad and Tobago could consider

turning their funds with rigid rules into financing or quasi-financing funds with flexible rules to achieve more integrated and effective asset-liability management. Indeed, Chapter 7 of this volume provides quantitative estimations of the benefits derived from following this approach in conjunction with the adoption of fiscal frameworks previously suggested in Chapter 5. Suriname's current circumstances and medium-term prospects make it difficult to justify the case for operating a resource fund. If there is a desire to keep the fund, it would be vital to make its operational rules more flexible to lessen the fund's potential fiscal costs.

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Enhancing Fiscal Sustainability in Resource-Rich Caribbean Countries

Laura Giles Álvarez, Victor Gauto, and Jeetendra Khadan

Non-renewable natural resources offer both great opportunities and challenges to resource-rich countries. On the one hand, they create an extraordinary source of wealth that can be invested in human and physical capital. On the other hand, resource dependence has often been linked to lower growth (Auty 1993), an overvalued exchange rate (also known as Dutch disease) (van Wijnbergen 1984), unproductive rent seeking, and lower savings and productivity (Oomes and Kalcheva 2007).

Fiscal management challenges arising from nonrenewable resources can be complex. First, commodity price cycles have large fluctuations that are difficult to disassociate from fiscal outcome trends in resource-dependent countries. This makes planning and management of oil revenues challenging, particularly when resource rents are the main source of revenue for the government. Second, the hump-shaped extraction profile of nonrenewable resources raises important questions relating to intergenerational equity in the distribution of resources and the eventual adjustment to a post-resource era (Budina and van Wijnbergen 2008). Finally, mismanagement of resources can contribute to and exacerbate budget volatility and procyclicality, foregone opportunities for investment, and, in some cases, high public indebtedness and debt overhang. Therefore, ensuring both adequate revenue management and financial planning is key to maximizing the benefits and minimizing the drawbacks of resource abundance.

Chapters 5 and 6 of this volume assessed two key tools that can aid fiscal management and support predictability, transparency, and sustainability in fiscal policy. Chapter 6 discussed the role of sovereign wealth funds (SWFs). In many resource-exporting countries, SWFs are used to support fiscal and asset management, and are set up as part of a broader fiscal framework that includes fiscal rules or guidelines in order to reduce revenue and expenditure volatility and avoid fiscal procyclicality. In addition, as argued in Chapter 5, despite mixed empirical evidence on the

impact of fiscal rules on fiscal policy in resource-rich countries, some countries that have adopted fiscal rules have shown signs of conducting prudent fiscal management. This contributed to the accumulation of significant fiscal buffers and long-term savings, particularly in countries with strong institutional fiscal frameworks. However, there are fiscal rules that have also been found to have the opposite effect. In some countries, there was little or no evidence of improved fiscal outcomes, and the rigidity of some of the rules resulted in them being flaunted or repealed when they came under stress during a downturn in commodity prices. The design and institutional framework for these rules is therefore key.

As Chapters 5 and 6 conclude, resource-dependent countries confront two separate fiscal issues. On the one hand, there is the need to ensure a sound inter-generational management of the natural resources (which could be addressed with appropriately designed SWFs). On the other hand, it is also important to guarantee responsible short-term management of resource price shocks (which could be addressed with well-designed fiscal rules). While the two are certainly related, because SWFs and fiscal rules address two separate issues it is important to see how they work together. The combination of these two institutions could support a more predictable pattern of revenues and expenditures, incentivize a more efficient use of resources, and aid intergenerational distribution of wealth within a synergic setting. Therefore, this chapter examines this issue with empirical simulations in two Caribbean resource-dependent countries.

The chapter first reviews international evidence on fiscal trends in resource-dependent countries and discusses the role SWFs and fiscal rules can play in supporting better fiscal outcomes. It then reviews how nonrenewable resource management has taken place and continues to take place in Guyana and Trinidad and Tobago. Simulations are presented on how different combinations of fiscal rules could support less volatile and more predictable and sustainable fiscal policies, and policy recommendations are put forth for both countries.¹ In the case of Trinidad and Tobago, an analysis found that better fiscal outcomes could be achieved with the enactment of a fiscal rule that caps the annual growth rate of recurrent expenditures along with an enhanced savings rule for the Heritage and Stabilization Fund (HSF). Similar results were found for Guyana. Both Guyana and Trinidad and Tobago are petroleum-rich countries at different phases of oil and natural gas production. Trinidad and Tobago has been an oil producer for more than a hundred years and is currently mainly

¹ Simulation exercises were not performed for Suriname due to data availability constraints.

a natural gas producer, so the analysis for that country relied on historical data for policy simulations. Guyana has only recently become an oil producer and has one of the largest reserves of petroleum resources in the world on a per capita basis. In the case of Guyana, the exercise is forward-looking, based on government oil revenue projections and assumptions about how these revenues will be transferred to the annual budget.

7.1. Fiscal Sustainability in Oil-Dependent Countries: Can Sovereign Wealth Funds and Fiscal Rules Help?

This section looks at macroeconomic and fiscal trends for oil-dependent countries and reviews examples in the literature of how fiscal sustainability can be enhanced. It looks at international evidence of macroeconomic and fiscal trends linked to oil-dependent countries,² which are defined as countries that feature either resource rents of more than 10 percent of GDP, or fuel exports valued at 40 percent of merchandise exports or more.³ The section also reviews how fiscal outcomes can differ in these countries with the presence of either SWFs, fiscal rules, or both.

A long-standing body of literature shows that resource-dependent countries have lower long-run growth rates and worse developmental outcomes than countries with lower dependence on natural resources (Sachs and Warner 1995, 1997, 2001). There are various channels—often intertwined—through which this relationship takes place. Factors of production drawn to the oil sector can be drained away from other productive sectors, impairing potential productivity and fueling an appreciation of the real exchange rate (van Wijnbergen 1984). Resource-dependent countries have also been highlighted in the literature for showing signs of unproductive rent-seeking, low savings, and low productivity (Oomes and Kalcheva 2007).

Table 7.1 compares how oil-dependent and non-oil-dependent countries worldwide have fared over the past 30 years on key macroeconomic and social development indicators.⁴ On average, oil-dependent economies

² Reference is occasionally made to other resource-dependent countries for comparison purposes. Other countries in this sample are mostly dependent on gold, copper, and ore. The reason for focusing on oil-dependent countries is because oil and gas generate economic cycles that differ from countries that are dependent on gold or copper. The economic externalities of these natural resources on the rest of the economy and thus on planning and policy differ.

³ These thresholds were chosen based on a review of the literature, the sample of countries used, and the export profile of those countries based on Ahrend (2005) and the UNCTADStat database (<https://unctadstat.unctad.org>).

⁴ See Annex 7.1 for details on the composition of each country group.

Table 7.1. Selected Macroeconomic and Fiscal Variables

GDP Per Capita Average Growth (percent)				
Countries	1990–2000	2000–2010	2010–2020	1990–2020
Oil-dependent	0.9	2.8	1.1	1.6
Non-oil-dependent	1.9	2.7	2.0	2.2
Average Human Development Index Score				
	1990–2000	2000–2010	2010–2020	1990–2020
Oil-dependent	0.53	0.57	0.62	0.57
Non-oil-dependent	0.63	0.68	0.73	0.68
Revenue Volatility (percent)				
	1990–2000	2000–2010	2010–2020	1990–2020
Oil-dependent	2.5	2.5	3.9	4.2
Non-oil-dependent	1.5	1.4	1.5	2.2
Expenditure Volatility (percent)				
	1990–2000	2000–2010	2010–2020	1990–2020
Oil-dependent	2.9	3.3	3.0	3.9
Non-oil-dependent	2.3	2.2	2.0	2.8
Average Monthly Rate Change (percent)				
Prices	1990–2000	2000–2010	2010–2020	
Oil price	0.4	1.2	0.2	
Copper price	–0.1	1.5	–0.1	
Gold price	–0.3	1.2	0.3	

Sources: IMF (2020a) and UNDP (2019).

grew at a slower pace between 1990 and 2020 (1.6 percent yearly) than non-dependent countries (2.2 percent a year). The pattern of growth has also varied across both types of countries over time. The growth pattern of oil-dependent countries followed that of oil prices. The average GDP per capita growth rate of these countries tripled between 1990 and 2000 (0.9 percent) and 2000 and 2010 (2.8 percent), coinciding with the oil boom, and then fell once more to an average growth level of 1.1 percent between 2010 and 2020, when oil prices fell. Although non-oil-dependent countries followed a similar pattern and recorded a higher GDP per capita growth rate over 2000–2010 (2.7 percent on average) than over 1990–2000 (1.9 percent on average), these countries were able to sustain higher average growth rates and lower volatility during the entire period.⁵

⁵ Oil-dependent countries in the sample show a GDP per capita growth standard deviation of 2.4 percentage points of GDP between 1990 and 2020, compared to 1.9 percentage point of GDP standard deviation in non-oil-dependent countries over the same period.

In terms of social development, as measured by the United Nations Development Programme's (UNDP) Human Development Index (HDI), oil-dependent countries had a lower average score (0.57) than non-oil-dependent countries (0.68) between 1990 and 2020. Revenue and expenditure volatility were also substantially higher for oil-dependent countries. Between 1990 and 2020, oil-dependent countries in the sample showed greater volatility in revenue collection (with a median standard deviation of 4.2 percentage points of GDP) compared to non-oil-dependent countries (with a median standard deviation of 2.2 percentage points of GDP). Expenditure volatility was also substantially higher in oil-dependent countries (with a median standard deviation of 3.9 percentage points of GDP) than in non-oil-dependent countries (with a median standard deviation of 2.8 percentage points of GDP).⁶

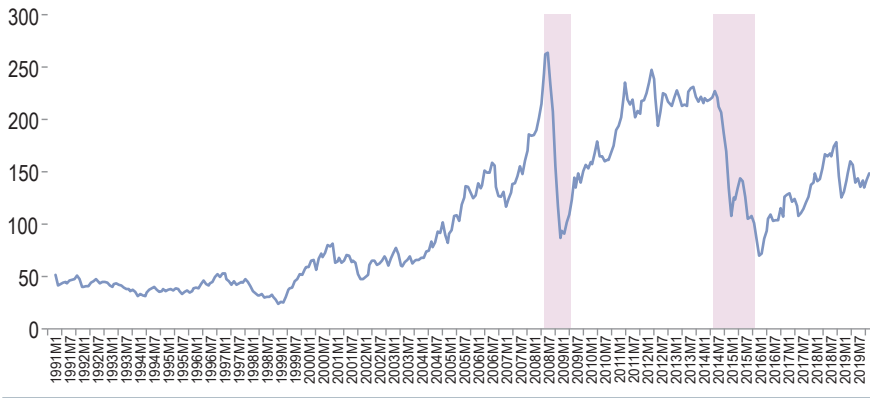
Fostering fiscal sustainability lies at the heart of promoting inclusive and sustainable growth. Public spending serves important national interests by providing public goods, creating formal employment, and delivering public services (Brahmbhatt and Canuto 2012). In addition, a taxation framework that finances the government in a clear, fair, and transparent way allows for spending to take place, while minimizing disruptions to saving incentives, investment, labor, and wealth creation.⁷ Finally, public sector debt provides an alternative source of financing expenditure and contributes to fairness and efficiency by redistributing the burden, both across generations and between different stakeholders within a generation (Buiter 2014).⁸

Yet resource-dependent countries face distinctive challenges to promote sustainable and inclusive fiscal policy. First, the potential large influx of finite revenues from the resources leads to an intergenerational concern of how to enable both current and future generations to enjoy the benefits of this revenue stream. Second, international commodity prices can be highly volatile, inducing unpredictability in government revenue and ultimately expenditure and growth. Periods of higher commodity prices are linked to greater spending and lower fiscal balance deficits in oil-dependent countries, whereas periods of lower commodity prices are linked to lower levels of spending—often at a greater expense to investment instead of curbing recurrent spending—and higher debt accumulation. Finally, the

⁶ Volatility in Table 7.1 is measured as the median of the country-level standard deviation over the time sample.

⁷ See Chapter 2 in this volume for a detailed discussion of institutions related to tax administration and their interplay with tax policies.

⁸ See Chapter 4 in this volume for a discussion of institutions related to public debt management.

Figure 7.1. Crude Oil (Petroleum), Price Index (2016 = 100)

Source: International Monetary Fund, World Economic Outlook database.

Note: This index reflects a simple average of three spot prices: Dated Brent, West Texas Intermediate, and the Dubai Fateh. The shading highlights periods of severe falls in the international price of oil.

exacerbation of booms and busts in fiscal policy, stemming from the procyclical nature of resource dependency, can lead to a rapid rise in debt in order to finance fiscal gaps that could later lead to a debt overhang.

Key fiscal indicators for oil-dependent countries have followed a pattern similar to international oil prices over the past decade. As seen in Figure 7.1, international oil prices have had two major downturns since 1991: in 2008–2010 and in 2014–2016.⁹ The second downturn resulted in a 43.5 percent decline in oil prices, the most severe reduction in oil prices in 30 years.¹⁰ Despite a partial recovery, international oil prices have still not returned to their 2011–2014 level.¹¹

Figures 7.2 and 7.3 compare trends in key fiscal indicators for resource-dependent, non-resource-dependent, oil-dependent, and non-oil-dependent countries for 2011–2014 and 2016–2019. The 2014–2016 drop in oil prices is used as a reference to measure fiscal performance before and after this event in the sample of countries.¹² The fall in international oil prices led, on average, to lower revenue collection and widening fiscal balances in oil-dependent countries. The average primary fiscal balance

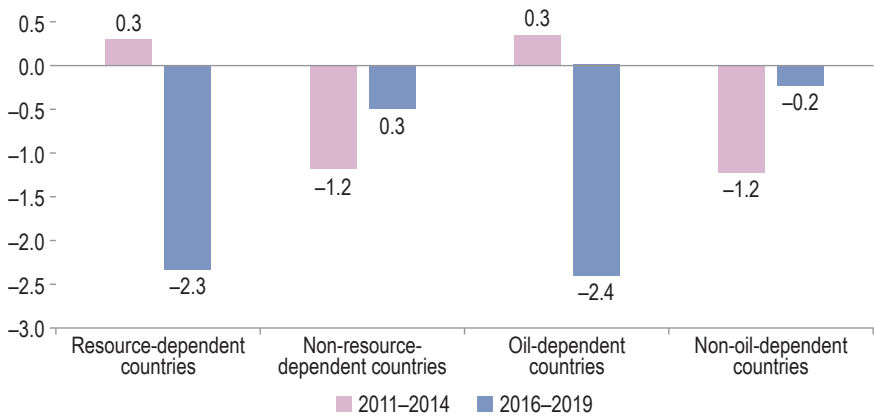
⁹ A third shock to international oil prices took place in 2020, but due to data constraints this analysis runs only until 2019.

¹⁰ The second most severe oil drop took place between 2009 and 2010, when international oil prices fell 34.5 percent on average.

¹¹ International oil prices averaged US\$215.86 per barrel between January 2011 and December 2014 and US\$131.10 per barrel between January 2016 and December 2019.

¹² A full list of countries can be found in Annex 7.1.

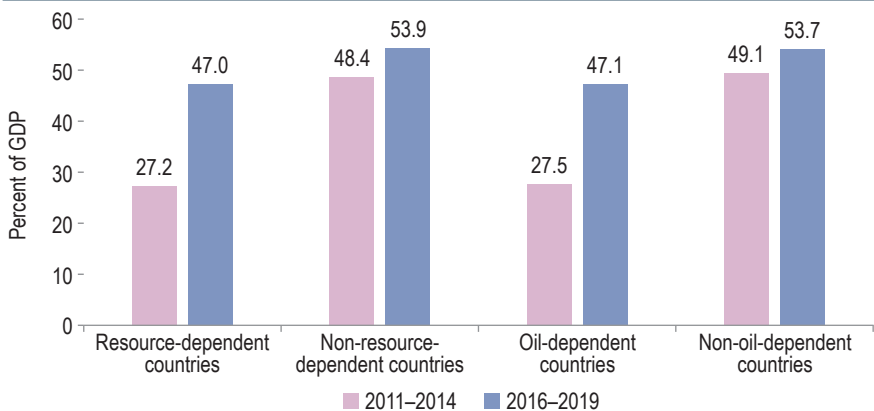
Figure 7.2. Primary Fiscal Balance (percent)



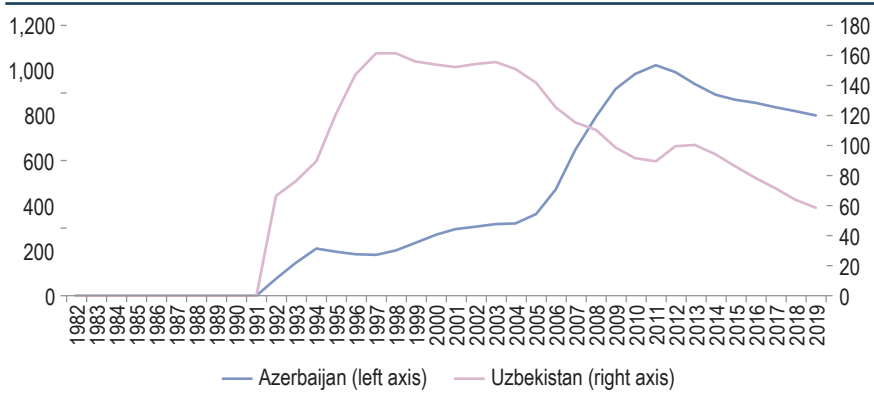
Source: IMF (2020a).

for oil-dependent countries fell from 0.3 percent of GDP over 2011-2014 to -2.4 percent of GDP over 2016-2019, compared to an improvement in the average primary fiscal balance for non-oil-dependent countries from -1.2 percent of GDP over 2011-2014 to -0.2 percent of GDP over 2016-2019. These widening fiscal balances, in turn, supported higher debt levels. As seen in Figure 7.3, the debt-to-GDP ratio in oil-dependent countries increased from an average 27.5 percent of GDP over 2011-2014 to 47.1 percent of GDP over 2016-2019, compared to a more modest debt-to-GDP-ratio increase in non-oil-dependent countries from 49.1 percent of GDP over 2011-2014 to an average 53.7 percent of GDP over 2016-2019.

Figure 7.3. Debt-to-GDP Ratios



Source: IMF (2020a).

Figure 7.4. Total Petroleum and Other Liquid Production (three-year moving average)

Source: International Energy Agency (<https://www.iea.org/>).

Looking beyond oil, natural-resource-dependent countries in general all experienced similar trends, reflecting comparable patterns in the price of gold and copper, which also underwent a period of subdued prices around 2015.¹³

Production of nonrenewable resources has a distinctive hump shape. Nonrenewable resources such as oil are finite, which gives them a hump shaped production trend that challenges revenue management and triggers concerns over the intergenerational distribution of wealth. Figure 7.4 shows the examples of Azerbaijan and Uzbekistan. Although the shape of the production trend depends on the volume and price of resources, as well as on the commercial viability for exploitation, these countries show a distinctive hump-shaped trajectory of production during the period of study. This then translates into a hump-shaped revenue collection trajectory that can pose serious challenges for revenue management. As resources are finite, the revenue collection increase might not necessarily translate into benefits for future generations. Therefore, being able to save at least a portion of these revenues, or investing them and using interest earned (such as is done in many SWFs) provides a mechanism that spreads out benefits across time, allowing current and future generations to benefit from the resource wealth.

¹³ The sample in Figures 7.2–7.6 has been restricted to countries that recorded a primary fiscal balance ranging between –15 and 15 percent of GDP and countries that recorded a debt-to-GDP ratio of less than 120 percent of GDP. Countries that fall outside these parameters are likely to be undergoing extreme fiscal imbalance, which would skew the trends shown in the figures.

So how can oil-dependent countries improve their financial management of resource rents? Based on the trends described above, IMF (2015) identified four key objectives that are advisable for resource-dependent countries: (1) maintain appropriate levels of stabilization savings, (2) promote effective spending policies, (3) ensure an effective use of taxation to reduce revenue volatility, and (4) support a strong institutional framework.

SWFs have been advocated as useful tools to save and stabilize the inflow of revenues from natural resources into an economy. Chapter 6 of this volume reviewed different types of SWFs, their benefits and challenges, and considerations when applying them in resource-rich countries. By insulating the economy from fluctuations in international commodity price markets and recurrently transferring a pre-agreed amount to the state budget via a transfer rule, SWFs can promote macroeconomic stabilization and stable budget financing. They can also serve as a saving and investment mechanism that either distributes the wealth across generations or generates a financial buffer in case an economic shock occurs.

However, empirical evidence has not always aligned with these expectations. Several studies highlight inefficiencies in terms of smoothing out government expenditures, consumption, and liquidity between periods of strong and weak commodity prices (Balin 2009). There is also a growing body of cross-country evidence on failed SWFs that either created incentives to overspend resource rents before they were obtained or had inadequate investment strategies, savings, and/or drawdown rules that eroded the gains of the fund. The argument that SWFs can create a financial base to help countries respond to shocks has also been challenged in certain strands of the literature. The argument lies in the fact that countries might be better off if they invest the economic wealth in the present in a way that promotes economic diversification, instead of building up an endowment for when a shock occurs (Balin 2009).

As outlined in Chapter 5 of this volume, fiscal rules have also been highlighted as an effective tool to support more efficient and sustainable spending policies, as well as more effective use of government revenues. Countries that have a large influx of revenues often face serious challenges relating to incentivizing an efficient use of these resources that contributes to growth and development outcomes. For example, empirical evidence highlights that resource-dependent countries during commodity booms tend to disproportionately increase expenditure on subsidies (fuel and utilities) and transfers to households. These are generally not well targeted and result in vertical inefficiencies that can have growth-reducing effects,

in addition to other environmental and health costs (Clements et al. 2013).¹⁴ In terms of revenue, governments in commodity-dependent countries are not always sufficiently incentivized to design and maintain efficient tax systems, as resource rents are rewards in excess of productivity (Eklou 2016). This makes countries even more vulnerable to the volatility of commodity prices and generates fiscal constraints once resource revenues are finished. It can also render governments less accountable to taxpayers. As reviewed in Chapter 5, the number of countries that have adopted numerical rules has increased rapidly in recent decades: only five countries had enacted fiscal rules by 1990, but by 2015 this number had increased to 92. Most countries currently use more than one rule. Debt ceilings, coupled with expenditure and budget balance rules, are the types of rule most used today.

Empirical evidence of the effectiveness of fiscal rules has been mixed. “First-generation” rules, which were introduced in the 1990s and early 2000s, generated significant drawbacks. They facilitated a procyclical fiscal policy, did not ensure medium- and long-term debt sustainability, and were often not supported by adequate instruments to enforce them. A “second generation” of rules has been developed in the last decade that expands flexibility provisions (for example, with new escape clauses) and improves enforceability (by introducing independent fiscal councils, broader sanctions, and correction mechanisms). Yet these innovations, as well as the incremental nature of the reforms, have made the systems surrounding fiscal rules more complicated to operate, with little evidence of improved compliance. Moreover, despite evidence suggesting that stronger rules are associated with lower deficits in European countries, even after correcting for selection bias,¹⁵ empirical analyses of causality that have tried to address this bias have so far not found a statistically significant impact of rules on outcomes (Eyraud et al. 2018).

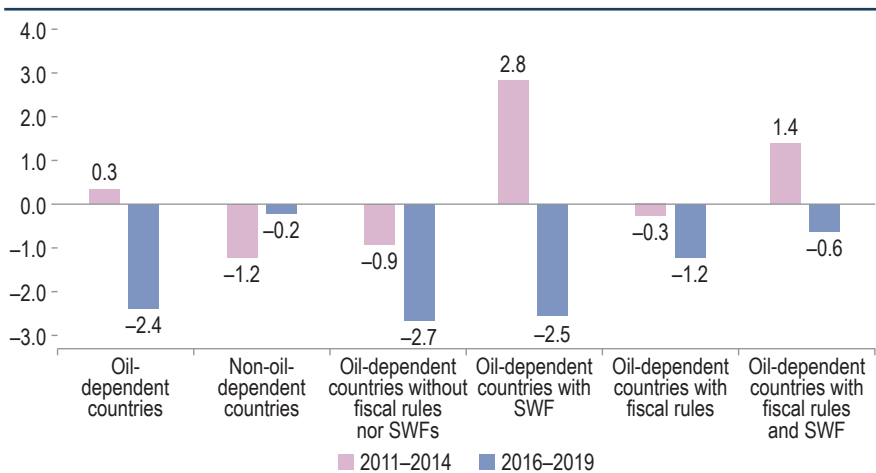
¹⁴ Studies have found that differences in the composition of government expenditure can have varying effects on economic growth. For example, in a study covering both developed and developing countries, Baum and Lin (1993) found that welfare expenditure, while serving an important function, has a negative effect on economic growth, while expenditures on education and defense have a positive growth effect. In Organisation for Economic Co-operation and Development countries, Devarajan, Vinaya, and Heng-fu (1996) found that expenditures on healthcare, transportation, and communication have a positive effect on growth, while education and defense spending have a negative impact. In the case of Barbados, Belgrave and Craigwell (1995) found that capital expenditure is growth-positive while current expenditure is growth-negative.

¹⁵ See Debrun et al. (2008), Afonso and Hauptmeier (2009), and Bergman, Hutchison, and Hougaard Jensen (2016).

Evidence on the impact of fiscal rules on fiscal policy in resource-rich countries is also mixed. In some countries that have adopted fiscal rules (e.g., Chile and Norway), fiscal management has been prudent and has contributed to the accumulation of significant fiscal buffers and long-term savings. In other resource-rich countries, rigid fiscal rules were flaunted or outright repealed when they came under stress during downturns in commodity prices. Rigorous econometric evidence of the effectiveness of rules in countries dependent on nonrenewable natural resources is also limited. A study of oil-exporting countries found that fiscal rules and resource funds did not have a statistically significant impact on the non-resource balance, expenditure dynamics, or correlation between oil revenues and public expenditures (Villafuerte et al. 2008). Another study found that fiscal rules in such countries had limited success in reducing the rate of growth of current spending during booms but may have contributed to significant reductions in capital expenditure during periods of falling oil prices (Arezki and Ismail 2010). A more recent study of resource-rich countries found that fiscal rules and resource funds have not reduced the procyclicality of government expenditure on average, but countries with better-quality fiscal institutions have shown less procyclicality than the average (Bova, Medas, and Poghosyan 2016).

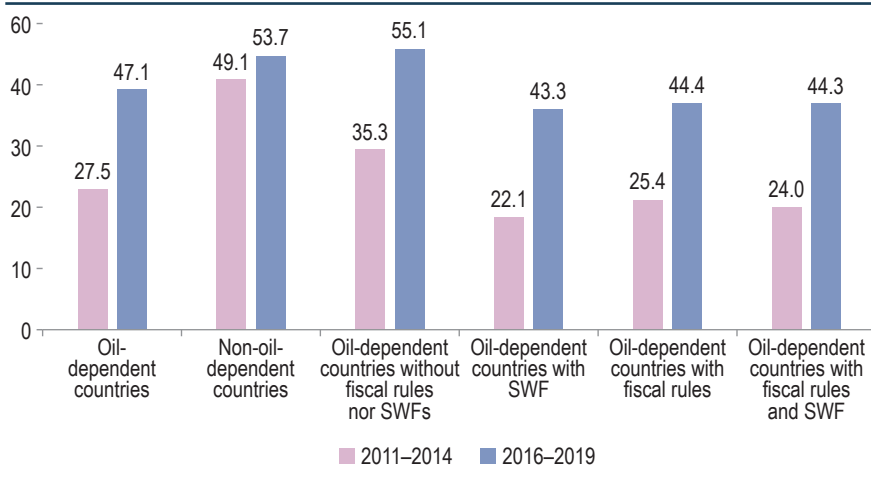
Figures 7.5 and 7.6 compare key fiscal indicators for oil-dependent countries, non-oil-dependent countries, oil-dependent countries with and

Figure 7.5. Primary Fiscal Balance in Oil-Dependent and Non-Oil-Dependent Countries (percent of GDP)



Source: IMF (2020a).

Note: SWF: sovereign wealth fund.

Figure 7.6. Debt-to-GDP Ratios in Oil-Dependent and Non-Oil-Dependent Countries (percent)

Source: IMF (2020a).

Note: SWF: sovereign wealth fund.

without SWFs, and oil-dependent countries with and without fiscal rules.¹⁶ This exercise combines fiscal data from IMF (2020a) and the International Forum on Sovereign Wealth Fund's database on SWFs. Out of the 38 countries classified as oil-dependent in the sample, 32 have an SWF and 16 have fiscal rules, most of which are debt rules or fiscal balance rules. Building on the pre- and post-2014–2016 oil price decline analysis presented in previous paragraphs, the analysis finds that having an SWF and fiscal rules does seem to be correlated with better fiscal outcomes measured in terms of the primary fiscal balance. However, this does not seem to translate into lower levels of debt. As seen in Figure 7.5, oil-dependent countries that have neither an SWF nor a fiscal rule experienced a decline of their average primary fiscal balance from -0.9 percent of GDP over 2011–2014 to -2.7 percent of GDP over 2016–2019. Comparatively, countries in the sample with both an SWF and fiscal rules had a better fiscal stance both before and after the oil decline: from an average primary fiscal balance of 1.4 percent of GDP over 2011–2014 to an average of -0.6 percent of GDP

¹⁶ Notice that all these comparisons are observational and conducted for illustrative purposes. None of these comparisons can be interpreted as causal evidence as adoption of SWFs and fiscal rules across countries is very likely to be associated with other unobserved factors that could also be systematically correlated with the outcomes of interest.

over 2016–2019. Having an SWF alone was not related to a smaller change in the primary fiscal balance over 2011–2014 and 2016–2019, nor associated to a better fiscal outturn over 2016–2019. Meanwhile, the presence of fiscal rules was associated with a slight reduction of the change in the fiscal outturn and with a narrower primary fiscal deficit compared to countries that had neither an SWF nor fiscal rules and to countries that only had an SWF. The presence of fiscal rules and SWFs also did not seem to reduce the pace of debt accumulation, as countries with and without fiscal rules alike presented a similar increase in their debt-to-GDP ratio over 2011–2014 and 2016–2019. However, countries that had either an SWF, a fiscal rule, or both did on average have much lower debt-to-GDP ratios than countries that did not have either of these tools, particularly before the oil price drop.

The mixed results in the figures echoes findings in the literature and points towards a broader set of factors that could be associated with the success or failure of SWFs and fiscal rules in oil-dependent countries. Sound institutions—which include laws, organizations, and behaviors that define the design and operation of fiscal policy—have been highlighted as important factors for the effectiveness of SWFs and fiscal rules (IMF 2007). As outlined in Chapters 5 and 6 of this volume, fiscal rules and SWFs are only part of a broader institutional framework that also generally requires medium-term frameworks, fiscal councils, and budgeting cycles to function effectively. Institutional quality is highlighted by a substantial body of literature as a key link between resource dependence, growth, and fiscal sustainability (Asik 2013; Frankel, Vegh, and Vuletin 2012; De Rosa and Ito 2012). A poor institutional environment could be more susceptible to disruption by resource dependence, potentially altering a country's governance system (Acemoglu, Johnson, and Robinson 2005), dampening entrepreneurship and misaligning incentives to invest and innovate, and thus lowering economic potential.

The literature also highlights the benefits of strengthening public financial management systems and enhancing the link between medium- and long-term fiscal targets and the annual budgeting process in oil-dependent countries. A single definition of what constitutes sound institutions does not exist, as this depends on country-specific socioeconomic and political contexts. However, the literature highlights some specific areas of improvement that have been shown to improve, in some cases, the effectiveness of adopting SWFs and fiscal rules in oil-dependent countries.

First, many oil-dependent countries have weaknesses in their public financial management systems, specifically in managing planning, allocation, and effective control of budgetary resources. Higher spending during resource boosts can also put additional pressure on public financial

management systems, particularly regarding public investment and procurement processes. Possible ways to strengthen these processes could include reinforcing budget planning, accounting and classification, internal control, and audit and reporting processes and structures.

Second, as highlighted in Chapter 3 of this volume, a medium-term framework that establishes the link between budgeting and medium-term planning is seen as a positive factor for the effectiveness of SWFs and fiscal rules. To this end, international evidence highlights the desirability of adopting a well-designed rolling medium-term framework for fiscal planning, which can help connect the annual budget to longer-term planning processes. The design and implementation of a medium-term framework, however, should be consistent with the public financial management systems and institutional capacity of the country. Although evidence shows that existing public financial management systems in some oil-producing countries are likely to be sufficient to support the gradual introduction of a medium-term framework, the empirical evidence of implementation of such frameworks has been mixed, particularly in low-income countries. Therefore, this process should be gradual, based on the capacity and needs of the country (World Bank 2005, 2012; Filc and Scartascini 2010; Vlaicu et al. 2014).

Third, it is desirable to put in place explicit risk management strategies to offset shocks and facilitate smoother adjustment processes in response to oil price volatility. This includes the implementation of scenarios, stress tests, and risk metrics as part of the medium-term frameworks.

Finally, promoting greater transparency and accountability is of utmost importance. Fiscal rules and SWFs are two tools that can help towards this end by incentivizing recurring processes and structures that include transparency, coverage, and accountability requirements. Strengthening review and accountability mechanisms for spending and budgeting, publishing recurring key fiscal indicators, honoring reporting timetables, and making a more concerted effort to include civil society in the budgeting process could be proactive steps towards this aim.

This section has analyzed key macroeconomic and fiscal trends in oil-dependent countries and reviewed the possible role of SWFs and fiscal rules to mitigate the challenges these countries face. Oil-dependent countries exhibit more volatile and less sustainable trends on key indicators relating to fiscal policy compared to non-oil-dependent countries in the sample. Yet the presence of SWFs and fiscal rules is found to have mixed results in promoting more sustainable fiscal outcomes in these countries, echoing findings in the literature. Stronger institutions could support better results. But what implications does that have for countries

in the Caribbean region? The next section looks at Guyana and Trinidad and Tobago, two oil-producing Caribbean countries, and conducts a scenario analysis based on different SWF rules and the presence of fiscal rules.

7.2. Caribbean Case Studies

7.2.1. Guyana

The Fiscal Rule Application

Guyana has recently become an oil producer and is now estimated to have at least 8 billion barrels in petroleum reserves. Since 2015, ExxonMobil has made 18 oil discoveries, the most recent of which was in September 2020. In relation to Guyana's population of approximately 780,000, this suggests the level of reserves equates to 10,250 barrels per person (bpp). Although this measure is lower than that of Kuwait (24,000 bpp), it is higher than that of the United Arab Emirates (10,100 bpp), Venezuela (9,500 bpp), and Saudi Arabia (8,100 bpp), making Guyana one of the richest countries in petroleum reserves in the world. Similarly, ExxonMobil has announced plans to reach a production rate of at least 750,000 barrels per day, which would make Guyana the largest oil producer on a per capita basis in the world (BP 2019).

In response, the government of Guyana decided to create a Natural Resource Fund (NRF), which it passed into law in January 2019. As discussed in Chapter 6 of this volume, the purpose of the fund is to effectively manage the natural resource wealth of Guyana for the present and future benefit of the people. The fund has four objectives: (1) to avoid volatile public spending, (2) to protect economic competitiveness, (3) to transfer natural resource wealth fairly across generations, and (4) to use this wealth to finance national development priorities. Chapter 6 highlighted a number of caveats regarding the NRF's capacity to achieve its objectives, mainly that its stated objectives transcend what the fund's operations can achieve, which depends on the government's overall fiscal policy rather than the NRF.

This section illustrates how the statutory limitations on withdrawals from the fund are not sufficient to achieve the fund's objectives. It is argued that the withdrawal rule has little or no practical effect on the fiscal position, since the government could increase spending during the budget process and thus incur debt-financed fiscal deficits, offsetting the potential saving in the NRF. This exercise begins by briefly describing the

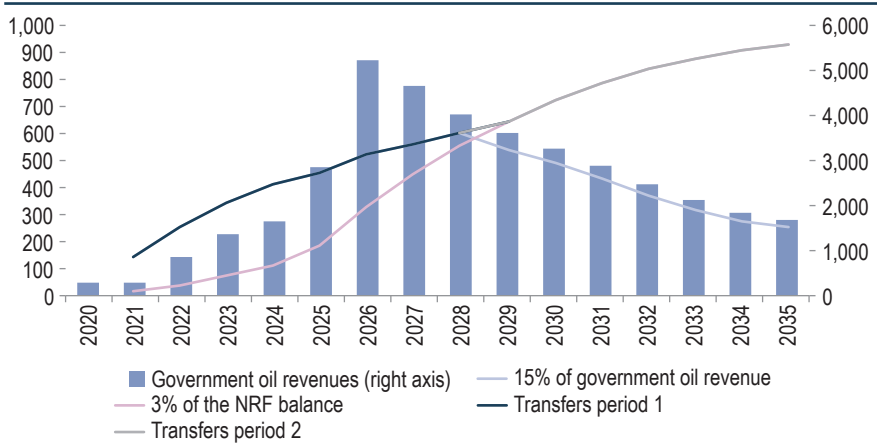
withdrawal rule in the NRF and the trajectory of annual transfers from the fund to the budget over a 15-year period. Those estimates of transfers to the budget are then used to build a scenario of government revenues and compare it to different expenditure scenarios. Various expenditure scenarios are used to analyze their impacts on fiscal positions and the overall level of public debt.

The Natural Resource Fund's Withdrawal Rule

The NRF's withdrawal rule is characterized by two periods. In the first, the maximum withdrawal to the budget is based on a complex set of formulas that involve the calculation of benchmark oil prices, levels of oil production, non-oil revenues, and the NRF's balance. The objective of the formula is to transfer a relatively larger share of oil revenues to the budget when oil production is relatively low and reduce the share of oil revenues transferred to the budget when oil production levels are higher. This is consistent with the more recent view that developing countries use their income from natural resources to accelerate economic development by frontloading consumption spending and scaling up domestic investment (IMF 2012b; Collier et al. 2010). The second period takes place in the medium to long term, when 3 percent of the balance of the NRF exceeds a specific formula-based threshold, after which the transfer to the budget is limited to 3 percent of the NRF balance.

The relationship between government revenues, transfers to the budget, and the balance of the NRF are shown in Figure 7.7 in a numerical example. Government oil revenues based on five production wells are estimated to reach around US\$2.8 billion in 2025, peaking in 2027 before declining towards under US\$2 billion by the mid-2030s (Balza et al. 2020). For reference purposes, Guyana's GDP in 2019 was US\$5.2 billion (IMF 2020b). In terms of transfers to the budget, as an example, these transfers are shown to vary from 50 percent of oil revenues in 2021 to 15 percent in 2028, before triggering the 3 percent limit of the balance of the NRF in 2029. For this exercise, the share of oil revenues transferred to the budget is selected arbitrarily, capturing the transition from a lower to higher share of oil revenue savings as oil production increases, and providing somewhat smooth increasing transfers to the budget. The transfers in the example increase from US\$144 million in 2021 to US\$604 million in 2028. The limitation to transfer 3 percent of the balance of the NRF is triggered in 2029, when the transfer is US\$645 million and increases to US\$930 million in 2035. By then, the balance of the NRF is estimated to reach US\$31 billion on the basis of revenues flowing into the NRF and deductions for transfers to the budget.

Figure 7.7. Guyana: Government Oil Revenues, Transfers to Budget, and Natural Resource Fund Balance Based on Five Oil-Producing Wells (millions of U.S. dollars)



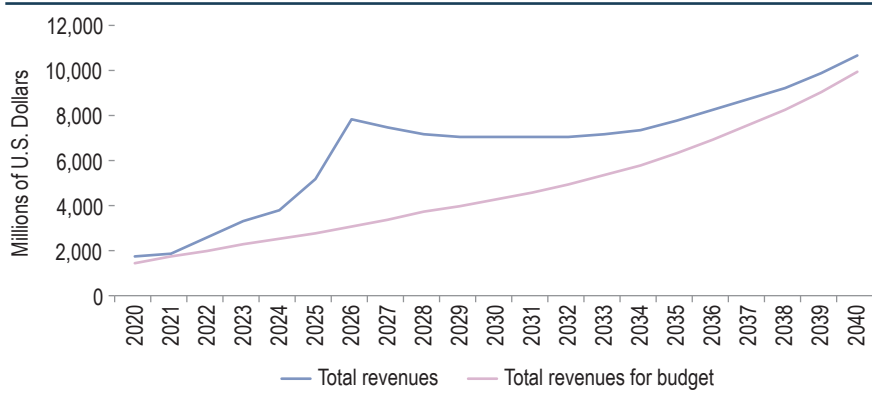
Sources: Balza et al. (2020) and authors' estimates.

Total cumulative government oil revenues are estimated to reach US\$39 billion by 2035 and US\$48.9 billion by 2052 (Balza et al. 2020).

Revenues

Total government revenues, including oil revenues directed to the NRF, are estimated to grow by 18 percent on average between 2020 and 2030, while total revenues to the budget, including transfers from the NRF, are estimated to grow more conservatively, by 11 percent per year. This takes into account that a significant share of oil revenues would not be available for the budget.¹⁷ This is an important distinction, since the government's financing needs would not be determined by total revenues, but rather by total revenues available in the budget, including transfers from the NRF. In this context, total government revenues are simulated to grow from US\$1.7 billion in 2020 to US\$7 billion in 2030, and total resources available to the budget are simulated to grow from US\$1.4 billion to US\$4.2 billion (Figure 7.8). The difference between the two simulated lines are the savings accumulating in the NRF.

¹⁷ As a reference, the estimate of total government revenue growth over 2020-2024 in the IMF's 2019 Article IV assessment was 18.4 percent on the basis of two oil production wells.

Figure 7.8. Guyana: Total Revenues Including Oil versus Total Revenues Available to the Budget

Source: Estimates by the authors.

Expenditures

The expenditure series is where scenarios are proposed to illustrate the impact of expenditure volatility on both the fiscal balance and the level of public debt. The main fixed assumption is that Guyana's level of public debt amortization varies in the model between US\$50 million and US\$65 million annually, in line with Guyana's recent principal repayment obligations (averaging US\$55 million between 2015 and 2019) (IMF 2020b). Domestic debt amortization was also included, indicatively estimated at US\$1.3 million by Guyana's Ministry of Finance for the reference period (2020–2023).¹⁸ All other main indicators, such as public debt and the fiscal balance, are left open to vary based on the selected expenditure scenarios. The three scenarios modeled in this exercise include a base scenario, a moderate scenario, and a fiscal rule scenario.

Base scenario

The expenditure estimates in the base scenario draw on the Debt Sustainability Framework of the IMF's 2019 Article IV Consultation (IMF 2019). Implicitly, a public-debt-targeting fiscal rule is assumed, since it generates a level of expenditure that is a function of an assumed level of public debt, consistent with the Article IV assessment. Although total debt is increasing, public debt as a share of GDP declines, since GDP growth outpaces debt accumulation. In the Article IV assessment, public debt as a

¹⁸ See the Ministry of Finance 2020 Budget Estimate, Volume 2, Table 5.

share of GDP declines from 56.6 percent in 2019 to 3.8 percent in 2039. In this exercise, total public debt is estimated to vary from US\$2.3 billion in 2019 to US\$2.7 billion in 2040, following the framework of the Article IV assessment. The expenditure estimates that these assumptions generate are relatively moderate, leading to an expenditure growth rate averaging 10 percent over 2020–2030.¹⁹

Moderate scenario

In the moderate scenario, the expenditure path is increased in order to analyze the impact on the overall fiscal deficit and the level of public debt. The moderate scenario assumes expenditures increasing by 11.8 percent annually over 2020–2030.

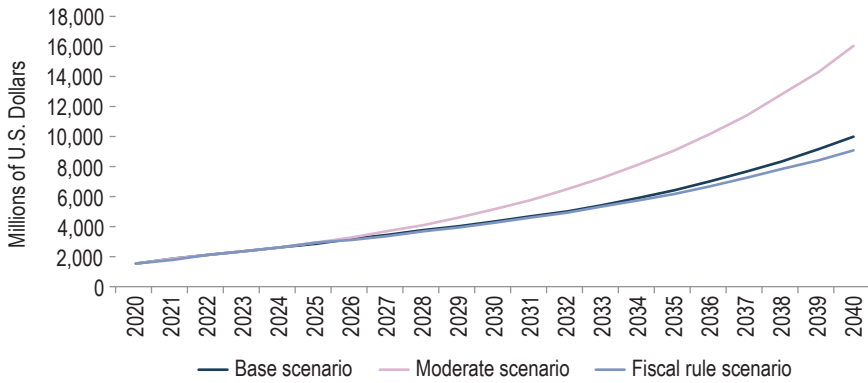
Fiscal rule scenario

Finally, this scenario models the presence of a fiscal rule, following the recommendations made in Chapter 5 of this volume:

- Limit the real rate of growth of central government primary expenditures to a level somewhat lower than that of real GDP. The differential could be set higher for the next five years, when GDP growth is projected to accelerate sharply, and then reviewed and reduced thereafter as GDP growth decelerates to its longer-term average.
- Ensure that an adequate share of the additional spending goes to public investments by setting a ceiling on the ratio of current to total primary spending.
- Adopt a target path for public debt through the next decade to accompany the expenditure rule, consistent with elimination of the primary deficit over the next two to three years and growing surpluses thereafter.
- Specify the debt as net of assets accumulated in the NRF if the current rigid and complicated rules for deposits into and withdrawals from that fund are made flexible.

For the purposes of this scenario, the focus is on limiting the growth rate of primary expenditures in order to analyze the impact on the fiscal deficit

¹⁹ In its Article IV assessment, the IMF assumed the adoption of a medium-term fiscal framework placing limits on the fiscal balance, which in practice is a fiscal rule (IMF 2019). The rule constrains the annual non-oil fiscal deficit to the expected transfer from the NRF, contributing to a zero overall fiscal balance.

Figure 7.9. Guyana: Total Expenditures under Varying Scenarios

Source: Authors' estimates.

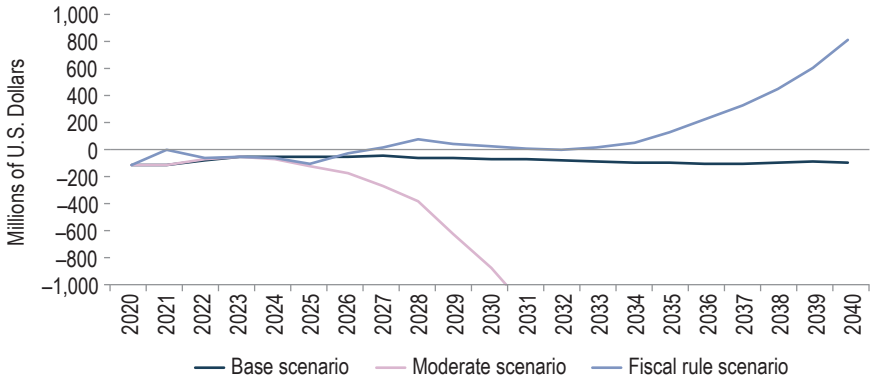
and the level of public debt, since several of the other suggested indicators are fixed in the mix. The recommendation on the shares of public investment is relevant for government policy but would not affect the estimate here of total expenditures. The suggestion to adopt a target path for public debt is implicitly included in the base scenario. As outlined in the first recommendation, the fiscal rule scenario assumes nominal primary expenditure growth of 12 percent over the first five years of the horizon (2021–2025) and of 8 percent thereafter. In this scenario, total expenditures increase by an average rate of 9.9 percent over 2020–2030, the lowest of the three scenarios. The three total expenditure scenarios are shown in Figure 7.9.

Fiscal Balance and Public Debt

The analysis here presents a single revenue scenario compared against three different expenditure scenarios. As previously discussed in this chapter, the presence of an SWF and fiscal rules has an impact on the country's fiscal outturn, measured in terms of the primary fiscal balance and the debt-to-GDP ratio. Making use of the revenue projections and the three expenditure scenarios, Figures 7.10 and 7.11 present different scenarios for Guyana's prospective primary fiscal balance and debt-to-GDP ratio over 2020–2035.

An important characteristic of the NRF is that it constrains the amount of revenue available to the budget, such that very high levels of expenditure are financed by debt in this exercise. In the base scenario, the level of expenditures does not significantly exceed revenues available to the budget, such that the level of deficits is relatively low. Over 2020–2035, the fiscal deficit averages US\$75 million, lower than the average of US\$135 million over

Figure 7.10. Guyana: Fiscal Balance

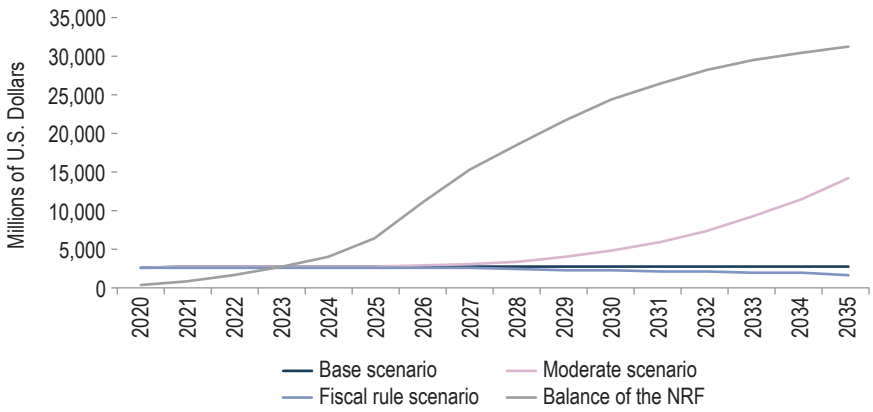


Source: Authors' estimates.

2015–2019. Similarly, public debt, which was taken as given for this scenario, remains around US\$2.45 billion on average over 2020–2035.

The moderate scenario introduces higher levels of expenditure relative to the base scenario, leading to large budget deficits reaching more than US\$1 billion by 2031 and growing thereafter. These large deficits, which are financed by loans, increase public debt levels from approximately US\$2.3 billion in 2020 to almost US\$14 billion by 2035. This is an example of how the withdrawal rules of the NRF could be undermined by growing levels of government expenditures. Similarly, this also shows how savings in the NRF can be eroded by unconstrained government expenditures. Figure 7.11

Figure 7.11. Guyana: Public Debt versus Savings in the Natural Resource Fund



Source: Authors' estimates.

shows the balance of the NRF, which is the same for all scenarios in this simulation. The balance is projected to reach US\$31 billion by 2035, but the moderate scenario suggests 45 percent of those savings would be offset by growing public debt, a risk that was pointed out in Chapter 6 of this volume.

Finally, the fiscal rule scenario is the most stringent of the three. The trajectory of the fiscal balance shows some level of volatility in the short to medium term. This is mainly because of the way the scenario was modeled, where total primary expenditures are allowed to increase at relatively high rates for the first five years (12 percent), after which its annual growth is lowered to 8 percent per year. The scenario also captures declines in growth of revenue available to the budget after 2026, after which revenue grows at an average rate of 8.3 percent over 2027–2035 compared to 13 percent over 2020–2026. Since total expenditures grow at a lower rate of 7.9 percent after 2025, fiscal surpluses grow significantly in the fiscal rule scenario in the 2030s. These surpluses are assumed to contribute to lower levels of public debt by 2025, that is, US\$1.4 billion in 2035 under the fiscal rule scenario compared to US\$2.5 billion under the base scenario (Figure 7.11).

Of the three scenarios, only the fiscal rule scenario contributed to achieving fiscal surpluses, based on the revenues assumed to be available to the budget. For the base scenario, the level of public debt was targeted such that the levels of expenditure were a function of both revenues available to the budget and the targeted level of public debt. That is a feasible option as long as it can be politically supported during the budget process. The fiscal rule scenario contributed to generating small fiscal surpluses in the medium term through 2032, after which the fiscal surplus increases significantly. This shows the importance of closely monitoring the performance of fiscal rules and making adjustments as necessary. In the case of the fiscal rule scenario, it would be plausible to increase the limit of the primary expenditure growth rate, which would contribute to smaller fiscal surpluses after 2032, or to adjust the transfers to the budget from the NRF. Once the budget transfers from the NRF reach the trigger limiting transfers to 3 percent of the balance, the transfers to the budget could grow at very high rates as long as oil revenues keep flowing into the NRF. This raises questions about how to manage these resources.

The NRF is an important first step to channel Guyana's resources for savings and investment. This exercise has served as an example showing that the absence of a constraint or a fiscal rule on the annual budget process could lead to increased spending on the back of savings in the NRF, leading to higher debt-financed budget deficits that could erode the savings in the NRF. Given the size of the expected increases in income and the associated wealth effect due to the government's increased spending

capacity, Guyana would be well served to broaden its fiscal framework by adopting a fiscal rule along the lines suggested in Chapter 5 of this volume.

The NRF complemented with a fiscal rule would contribute to strengthening Guyana's fiscal framework. However, the intended outcomes of these policies could be undermined by the government's institutional capacity to implement policies. In 2018, Guyana ranked in the 42nd percentile of the World Governance Indicators on its measure of government effectiveness,²⁰ below the Latin American and Caribbean average of 44 percent and the average for the countries in the IDB's Caribbean Country Department (CCB) of 56 percent,²¹ suggesting a relatively weak standing. Recall that the modeling in this exercise indicates that the government would have to absorb between US\$300 million and US\$500 million in the medium term and more in the long term, while the government currently has a budget of approximately US\$1.6 billion. The impending oil boom will potentially put pressure on the government's public financial management system and challenge the government's absorptive capacity to spend productively. The literature suggests that if windfall income stimulates wasteful spending or causes a breakdown in governance, these negative effects could be welfare-reducing (Collier et al. 2010).

Some areas for further institutional development include oil and gas governance as well as continuing to strengthen fiscal and public financial management frameworks. On the revenue side, oil production is new in Guyana and consequently the oil and gas legal and regulatory framework has lagged behind current developments. For example, the laws framing Guyana's petroleum fiscal regime date to the 1980s (Balza et al. 2020). On the expenditure side, in order to absorb the future higher levels of income, institutional capacity that could be strengthened includes sectoral infrastructure planning, public investment management, and public procurement systems, integrated with a medium-term expenditure framework that would contribute to improving the quality and efficiency of future government expenditure. All of these areas were recently scored relatively low in Guyana's 2019 Public Expenditure and Financial Accountability Performance Assessment. Finally, considering the expected level of economic growth, numerous private investment opportunities are expected. In this regard, advancing Guyana's Public Private Partnership

²⁰ Ranges from 0-100, where 100 is the highest. Government effectiveness reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.

²¹ The CCB countries are The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago.

Policy Framework, prepared in 2018, would contribute to facilitating private sector investment.

7.2.2. *Trinidad and Tobago*

Trinidad and Tobago formally established a Heritage and Stabilization Fund (HSF) in 2007. The HSF was preceded by an Interim Revenue Stabilization Fund (IRSF) in 2000. The objective of the IRSF was to save and invest surplus petroleum revenues, but there was no legislative framework at the time to govern the fund's operations. After consultations with several stakeholders, the HSF was established with broad-based political support to save and invest energy revenue in excess of budgetary projections. The HSF has performed relatively well, earning 5.6 percent per annum since its inception to 2017 (Hilaire 2019).

However, the rules of the HSF have contributed to less than optimal savings. The savings (withdrawal) rule of the HSF is triggered when actual petroleum revenue exceeds (falls below) budgeted energy revenue by at least 10 percent. The savings rule requires that a minimum of 60 percent of excess petroleum revenue be transferred to the HSF in any fiscal year. The withdrawal rule stipulates that in the event of a shortfall in petroleum revenue by at least 10 percent, the government is allowed to withdraw up to 60 percent of the shortfall, or 25 percent of the value of the HSF, whichever is lower (IMF 2012a).²² The main issues highlighted regarding the HSF rules include (1) deposits are limited to oil revenues, which does not allow the HSF to leverage revenues generated throughout the energy value chain in a low oil price environment; (2) only a fraction of excess oil revenue is required to be deposited into the HSF; (3) the mechanism for determining prices on which revenue projections were made follows a less than conservative approach;²³ and (4) the HSF was not rooted in a medium-term fiscal strategy with clear fiscal rules.²⁴ Taken together, it has been argued that

²² The Heritage and Stabilization Fund Act was amended to permit withdrawals from the fund in exceptional circumstances, that is, when (1) a disaster area is declared under the Disaster Measures Act; (2) a dangerous infectious disease is declared under the Public Health Ordinance; or (3) there is, or is likely to be, a precipitous decline in budgeted revenues based on the production or price of crude oil or natural gas. The recent amendments limit withdrawals to US\$1.5 billion.

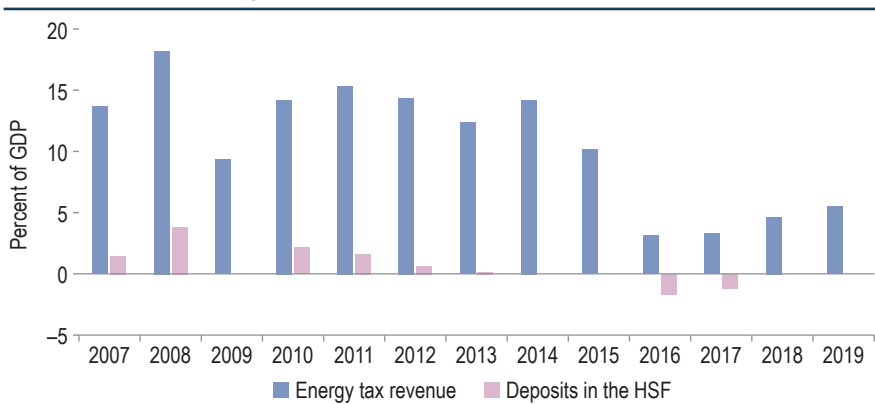
²³ The estimated petroleum revenue is calculated on the basis of an 11-year centered moving average of crude oil and gas prices, that is, with five years of history and five years of projections in addition to prices for the current year.

²⁴ Although the HSF has dual heritage and stabilization objectives, in practice it has served more as a heritage fund.

these rules contributed to undersaving, overspending, and an erosion of the wealth of future generations (IMF 2012a; Mc Guire 2008, 2014). In fact, Trinidad and Tobago deposited only 7 percent of total energy tax revenues earned over 2007–2019 into the HSF (Figure 7.12).

Taking into account the above-mentioned challenges, this section constructs a simple scenario analysis by modifying the rules of Trinidad and Tobago’s HSF and incorporating an expenditure fiscal rule (Table 7.2). First, a more robust rate of accumulation is assumed such that 25 percent of annual energy tax revenues are deposited into the HSF while the remainder goes directly to the budget. Second, the withdrawal rule is amended

Figure 7.12. Trinidad and Tobago: Energy Tax Revenues versus Deposits into the Heritage and Stabilization Fund

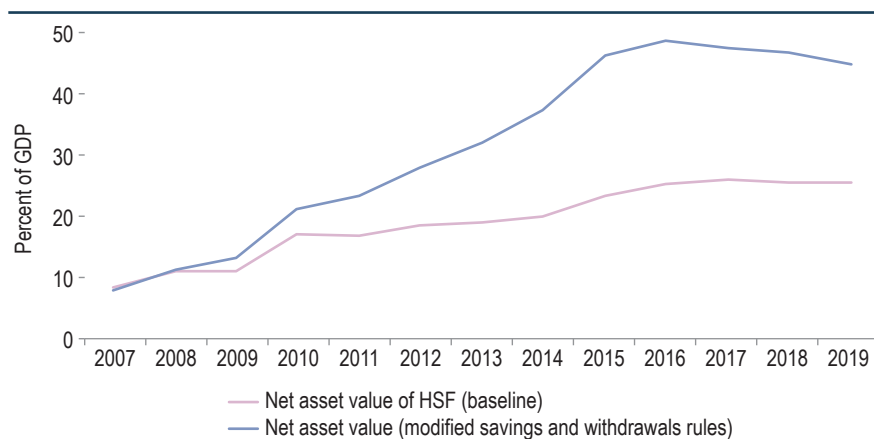


Source: Authors’ estimates based on information from the Ministry of Finance, Trinidad and Tobago.

Table 7.2. Trinidad and Tobago: Key Assumptions for the Heritage and Stabilization Fund Scenario

	Actual Rules	Modified Rules for Scenario
Savings rule	60 percent of excess petroleum revenues are to be deposited into the Heritage and Stabilization Fund (HSF) within the financial year.	25 percent of annual energy tax revenues to be deposited into the HSF within the financial year.
Withdrawal rule	The government can withdraw only if actual petroleum revenues are less than what the government projected by at least 10 percent. The amount to be withdrawn can be 60 percent of the shortfall in revenues but cannot exceed 25 percent of the HSF.	The government can withdraw 10 percent of the HSF balance during periods of low energy tax revenues, defined in the simulation scenario as the years 2016 and 2017.
Expenditure fiscal rule	None	Annual growth of current expenditures is limited to 7 percent.

Source: Prepared by the authors.

Figure 7.13. Trinidad and Tobago: Heritage and Stabilization Fund Assets with Modified Rules

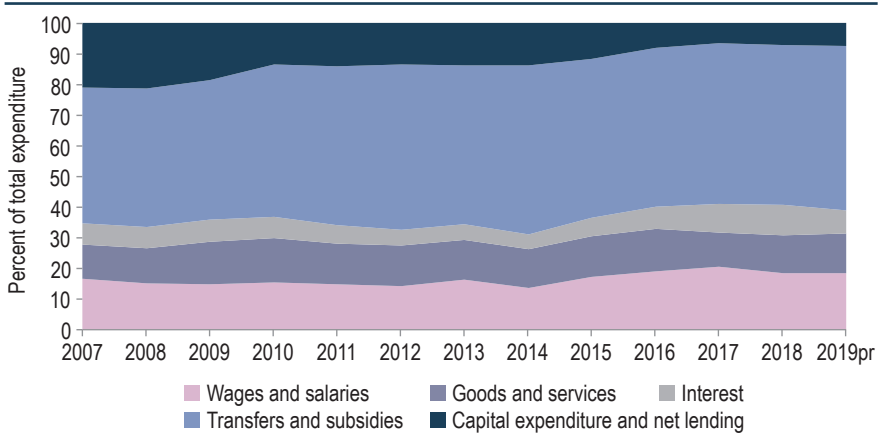
Source: Authors' estimates based on information from the Ministry of Finance, Trinidad and Tobago.

under the simulation to allow for larger withdrawals during periods of low energy revenues (i.e., 10 percent of the HSF balance). For simplicity, the modified withdrawal rule is applied to the two fiscal years (2016 and 2017) when the government accessed the HSF. Finally, an expenditure fiscal rule is applied that limits the annual growth of current expenditures to 7 percent, which is equivalent to the long-run nominal GDP growth rate for Trinidad and Tobago. Based on those assumptions, the simulation found that the HSF would have accumulated 44.6 percent of GDP as of June 2019 in the HSF, saving an additional 19.3 percent of GDP (Figure 7.13).

Fiscal performance in Trinidad and Tobago could have been better with the application of an expenditure fiscal rule. Expenditure increased significantly during the commodity boom, with an increase in government spending of 267 percent from 2001 to 2019. The increase in spending was mostly concentrated in transfers and subsidies (Figure 7.14), which Khadan (2017) found to have growth-reducing effects in the short run. The simulation conducted for this chapter included construction of a new revenue series with a much lower energy revenue component as defined by the modified HSF deposit rules. The revenue series included withdrawals from the HSF for fiscal years 2016 and 2017. Also, for fiscal years 2018 and 2019, the simulation did not include deposits of energy tax revenues into the HSF due to sustained lower energy revenues.

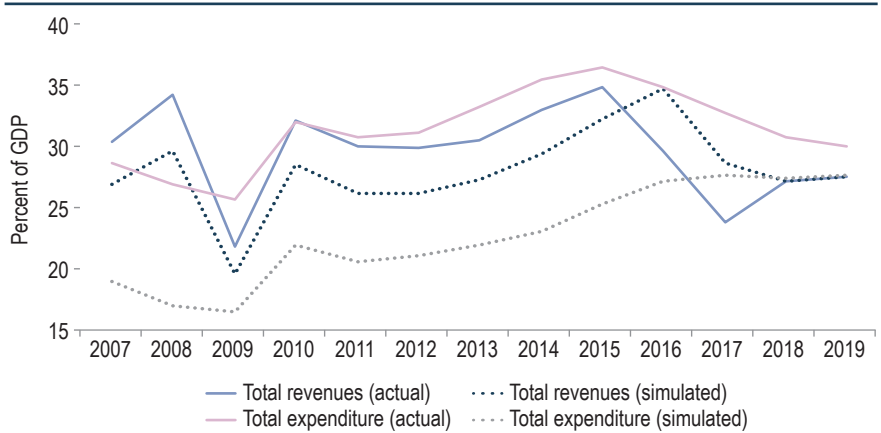
Similarly, a new expenditure series is also constructed using the expenditure fiscal rule (Figure 7.15). It should be noted that when constructing the expenditure series, the composition of government spending was also

Figure 7.14. Trinidad and Tobago: Composition of Central Government Expenditure



Source: Authors' estimates based on information from the Ministry of Finance, Trinidad and Tobago.
Note: pr: projected.

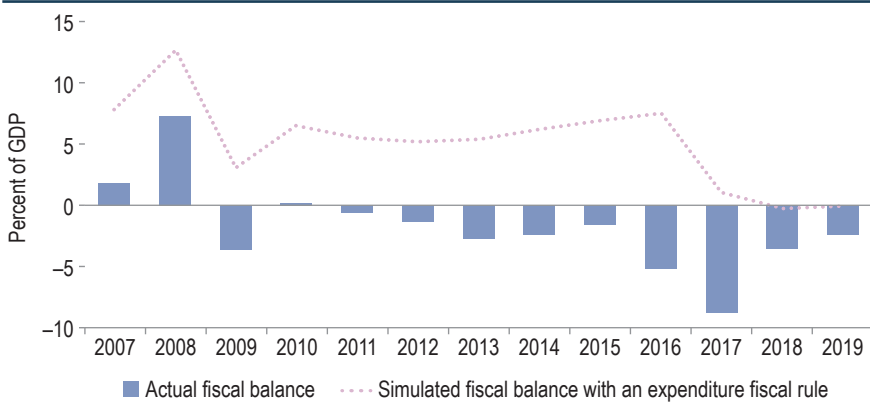
Figure 7.15. Trinidad and Tobago: Simulated Revenue and Expenditure Data



Source: Authors' estimates.

adjusted in favor of capital expenditure, which is likely to have an enhanced growth effect (an annual average of 30 percent capital expenditure compared to the actual share of 12 percent). Based on these assumptions, this simple illustrative example suggests that Trinidad and Tobago could have had better fiscal performance if the HSF had enhanced savings and withdrawal rules combined with an expenditure fiscal rule, and that the country would have had relatively better fiscal balances over the period examined (Figure 7.16).

Figure 7.16. Trinidad and Tobago: Fiscal Performance with Modified Heritage and Stabilization Fund Rules and an Expenditure Fiscal Rule



Source: Authors' estimates.

Stronger revenue and expenditure institutions are also needed to support fiscal outcomes. In addition to fiscal rules and enhanced savings rules for the HSF, there is ample room to strengthen other related institutions to support fiscal outcomes. For example, Trinidad and Tobago's revenue system contains many tax exemptions and deficiencies in administration that undermine the country's revenue-generating capacity. There are tax expenditures/business tax incentives that encourage inefficiency.²⁵ Relatedly, the main deficiencies in tax administration include human capital management, leakages, a high perception of corruption, a deficient value-added tax refund process, an unreliable tax registration database, deficiencies in information and communications technology, and inadequate customer service (Sahadeo 2012). In that regard, the country should continue with plans to establish a strong revenue authority along the lines suggested in Chapter 2 of this volume.²⁶ Further, best-practice expenditure institutions are lacking, including performance-based reporting and budgeting and linkage between Treasury operations and budget execution.²⁷ There is also room to improve institutions that are responsible for

²⁵ Most legislation describes in some detail the conditions under which a firm qualifies for the incentive, but some acts offer ample discretion to the authorities to approve the incentive.

²⁶ The government submitted a bill to create the Trinidad and Tobago Revenue Authority, but the bill was not approved by Parliament.

²⁷ See "Open Budget Survey 219: Trinidad and Tobago," available at <https://bit.ly/3aS37nU>.

the governance of state-owned enterprises in order to reduce inefficiencies in public expenditure and improve public investment management. Finally, there is significant room to improve national statistics in terms of timeliness, quality, availability, and coverage that would contribute to evidence-based policy decision-making.

7.3. Conclusions

This chapter has examined the application and complementarities between sovereign wealth funds and fiscal rules to improve fiscal performance. The evidence shows that oil-dependent countries have fiscal sustainability challenges, including lower growth, more revenue and expenditure volatility, broadening fiscal deficits, and higher debt accumulation during oil price downturns. Given the vulnerability of commodity-dependent countries to commodity price swings, the literature suggests that these countries should invest in policies to ensure an appropriate level of stabilization savings, a strong institutional framework, effective spending policies, and effective use of taxation to reduce revenue volatility (IMF 2015).

The review in this chapter of global trends in fiscal indicators shows that the presence of SWFs and fiscal rules has mixed results in terms of more sustainable fiscal outcomes. Specifically, the chapter noted that while countries with both SWFs and fiscal rules do seem to have better outcomes measured in terms of the primary fiscal balance, those SWFs and fiscal rules do not seem to lead to more sustainable debt levels. The strength, or lack thereof, of a stronger institutional framework could be an important factor that accounts for these mixed results. Frankel, Vegh, and Vuletin (2012) and Asik (2013) show that the effectiveness of stabilization funds depends on the quality of institutions and may not themselves contribute to greater fiscal discipline. Thus, while it can be seen globally that SWFs and fiscal rules can lead to better fiscal outcomes, success seems to be associated with broader institutional quality. Empirical evidence points towards key steps that oil-dependent countries can take to improve their quality of institutions:

- Strengthen public financial management systems, specifically those related to budget planning, accounting and classification, internal control, and audit and reporting;
- Adopt a well-designed rolling medium-term framework for fiscal planning;
- Include explicit risk management strategies in fiscal planning and policy; and

- Promote greater transparency and accountability by strengthening review and accountability mechanisms, recurrently publishing key fiscal indicators, honoring reporting timetables, and making a more concerted effort to include civil society in the budgeting process.

For Guyana, this chapter performed a simulation exercise based on a single revenue scenario and three expenditure scenarios. The moderate scenario showed that with relatively high expenditure growth, fiscal balances would grow, leading to higher levels of debt and an erosion of the savings accumulating in the Natural Resource Fund. Also simulated was a fiscal rule scenario recommended in Chapter 5, under which primary expenditure grew at a rate of 12 percent for the first five years and 8 percent thereafter. The resulting fiscal balances were small fiscal deficits in the short term turning into small and growing fiscal surpluses in the medium term, contributing to the lowest levels of public debt in the longer term.

It will be important for the government not only to strengthen its fiscal framework to avoid an outcome such as the moderate scenario, but also to strengthen other institutions both in oil and gas governance as well as the public financial management framework in order to bolster the quality and efficiency of future public expenditure.

The case of Trinidad and Tobago examined in this chapter showed that a more robust accumulation of savings could be achieved with the enactment of a fiscal rule that caps the annual growth rate of recurrent expenditures. A simple scenario was constructed by modifying the rules of the Heritage and Stabilization Fund (HSF) and assuming an expenditure fiscal rule. The simulation assumed an annual savings rule for the HSF of 25 percent of annual energy tax revenues, a withdrawal rule of 10 percent of the HSF balance during periods of low energy revenues, and an expenditure rule that limits annual recurrent expenditure to the country's long-run nominal GDP growth rate (7 percent). The calculations showed that Trinidad and Tobago would have yielded enhanced fiscal and savings outcomes under the simulated scenario.²⁸ Specifically, on the basis of the modified rules, the country's HSF would have accumulated roughly 44.6 percent of GDP as of June 2019, compared to the actual balance of 25.3 percent of GDP, and would also have had better fiscal balances. In that regard, the country should seek to strengthen its fiscal framework

²⁸ It should be noted that this exercise did not account for the dynamic relationships between expenditure and growth (see Khadan 2017 for more details on fiscal policy and growth in Trinidad and Tobago).

by considering the enactment of a fiscal rule, moving forward with establishment of the Trinidad and Tobago Revenue Authority, and improving expenditure institutions, particularly in the areas of public investment management, governance of state-owned enterprises, and budgeting.

This chapter builds on the key messages being highlighted throughout this volume and provides practical recommendations for oil-dependent countries in the region. The chapter has analyzed whether the use of fiscal rules and SWFs can support more sustainable fiscal policy in oil-dependent countries, building on Chapters 5 and 6. The focus has been on whether the combination of these tools can lead to better fiscal outcomes, looking in particular at the cases of Guyana and Trinidad and Tobago. In addition, some practical country-specific recommendations have been provided. However, the examples in this chapter are illustrative in nature. They provide a snapshot of current and historical trends without delving into the complexities of institutional frameworks surrounding these fiscal rules and SWFs. Neither does the chapter address the political or social contexts that are so important in determining the setup and outcomes of these financial management tools. Future research should strive to develop these examples further and work on providing additional econometric evidence of the significance of these tools, as well as other factors that can support improved fiscal outcomes in oil-dependent countries.

Annex 7.1. Country Groupings

Oil-Dependent Countries	Non-Oil-Dependent Countries	Oil-Dependent Countries with a Sovereign Wealth Fund	Oil-Dependent Countries with Fiscal Rules	Oil-Dependent Countries with a Sovereign Wealth Fund or Fiscal Rules
Algeria	Afghanistan	Azerbaijan	Burkina Faso	Chile
Angola	Albania	Bahrain	Burundi	Colombia
Azerbaijan	Antigua and Barbuda	Brunei Darussalam	Central African Republic	Equatorial Guinea
Bahrain	Argentina	Chile	Chad	Gabon
Bolivia	Armenia	Colombia	Chile	Islamic Republic of Iran
Brunei Darussalam	Aruba	Equatorial Guinea	Colombia	Nigeria
Burkina Faso	Australia	Gabon	Ecuador	Norway
Burundi	Austria	Ghana	Equatorial Guinea	Republic of Congo
Central African Republic	Bangladesh	Islamic Republic of Iran	Gabon	Russia
Chad	Belarus	Kazakhstan	Islamic Republic of Iran	
Chile	Belgium	Mauritania	Liberia	
Colombia	Belize	Nigeria	Mali	
Democratic Republic of the Congo	Benin	Norway	Mongolia	
Ecuador	Bhutan	Oman	Nigeria	
Ethiopia	Bosnia and Herzegovina	Papua New Guinea	Norway	
Equatorial Guinea	Botswana	Qatar	Republic of Congo	
Gabon	Brazil	Republic of Congo	Russia	
Ghana	Bulgaria	Russia		
Guinea	Cambodia	Saudi Arabia		
Guinea-Bissau	Cameroon	South Sudan		
Guyana	Canada	Trinidad and Tobago		
Kazakhstan	China	Turkmenistan		
Iraq	Comoros	United Arab Emirates		

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Oil-Dependent Countries	Non-Oil-Dependent Countries	Oil-Dependent Countries with a Sovereign Wealth Fund	Oil-Dependent Countries with Fiscal Rules	Oil-Dependent Countries with a Sovereign Wealth Fund or Fiscal Rules
Islamic Republic of Iran	Costa Rica			
Lao P.D.R.	Croatia			
Liberia	Cyprus			
Mali	Czech Republic			
Mauritania	Côte d'Ivoire			
Mongolia	Denmark			
Mozambique	Djibouti			
Nigeria	Dominica			
Norway	Dominican Republic			
Oman	Egypt			
Papua New Guinea	El Salvador			
Qatar	Estonia			
Republic of Congo	Eswatini			
Russia	Fiji			
Saudi Arabia	Finland			
Sierra Leone	France			
Solomon Islands	Georgia			
South Sudan	Germany			
Suriname	Grenada			
Togo	Guatemala			
Trinidad and Tobago	Haiti			
Turkmenistan	Honduras			
Uganda	Hong Kong SAR			
United Arab Emirates	Hungary			
Uzbekistan	Iceland			
Yemen	India			
Zambia	Indonesia			
	Ireland			
	Israel			

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Oil-Dependent Countries	Non-Oil-Dependent Countries	Oil-Dependent Countries with a Sovereign Wealth Fund	Oil-Dependent Countries with Fiscal Rules	Oil-Dependent Countries with a Sovereign Wealth Fund or Fiscal Rules
	Jordan			
	Kenya			
	Kiribati			
	Korea			
	Kosovo			
	Kyrgyz Republic			
	Latvia			
	Lesotho			
	Lithuania			
	Luxembourg			
	Madagascar			
	Malawi			
	Malaysia			
	Maldives			
	Malta			
	Marshall Islands			
	Mauritius			
	Mexico			
	Micronesia			
	Moldova			
	Montenegro			
	Morocco			
	Myanmar			
	Namibia			
	Nepal			
	Netherlands			
	New Zealand			
	Nicaragua			
	Niger			
	North Macedonia			
	Pakistan			
	Panama			
	Paraguay			
	Peru			

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Oil-Dependent Countries	Non-Oil-Dependent Countries	Oil-Dependent Countries with a Sovereign Wealth Fund	Oil-Dependent Countries with Fiscal Rules	Oil-Dependent Countries with a Sovereign Wealth Fund or Fiscal Rules
	Philippines			
	Poland			
	Puerto Rico			
	Romania			
	Rwanda			
	San Marino			
	Senegal			
	Serbia			
	Seychelles			
	Singapore			
	Slovak Republic			
	Slovenia			
	South Africa			
	Spain			
	Sri Lanka			
	St. Kitts and Nevis			
	St. Lucia			
	St. Vincent and the Grenadines			
	Sweden			
	Switzerland			
	São Tomé and Príncipe			
	Tajikistan			
	Tanzania			
	Thailand			
	The Bahamas			
	The Gambia			
	Tonga			
	Tunisia			
	Turkey			
	Tuvalu			
	Ukraine			
	United Kingdom			

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Oil-Dependent Countries	Non-Oil-Dependent Countries	Oil-Dependent Countries with a Sovereign Wealth Fund	Oil-Dependent Countries with Fiscal Rules	Oil-Dependent Countries with a Sovereign Wealth Fund or Fiscal Rules
	United States			
	Uruguay			
	Vanuatu			
	Vietnam			
	Zimbabwe			

Source: Authors' own calculations.

Note: The sample of countries used for Figures 7.2–7.6, which is presented in this table, has been restricted to countries that recorded a primary fiscal balance ranging between –15 and 15 percent of GDP and countries that recorded a debt-to-GDP ratio of less than 120 percent of GDP in the period of study (2011–2019). Countries that fall outside these parameters are likely to be undergoing extreme fiscal imbalance, which would skew the trends shown in the figures.

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Pension Systems in the Caribbean: The Challenges Ahead

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“Happy families are all alike; every unhappy family is unhappy in its own way.”

Leo Tolstoy, Anna Karenina

The academic literature has borrowed that first line from Leo Tolstoy’s celebrated novel to describe what is known as the “Anna Karenina Principle”: a deficiency in any one of several factors dooms an endeavor to failure. Consequently, a successful endeavor is one where every possible deficiency has been avoided. This principle can of course be applied not only to families, but much more broadly.² For example, it can be applied to successful pension systems. That is, for pension schemes to be successful, they must succeed in many different ways, including their financial sustainability, the appropriateness of their replacement rates and population coverage, their affordability, etc. (Melguizo, Bosch, and Pages 2013; Altamirano et al. 2018). Failure in any one of these essential features can doom the system altogether even if it has all the other positive attributes needed for success. In other words, to borrow from Tolstoy, “successful pension systems are all alike; every unsuccessful pension system is unsuccessful in its own way.” As the Caribbean countries are reaching crucial decision points regarding the feasibility, sustainability,

¹ The authors are grateful for the comments of Oliver Azuara, Diether Beuermann, Mariano Bosch, and Carola Pessino.

² Diamond (1999, Chapter 9) uses this principle to illustrate why so few wild animals have been successfully domesticated throughout history: a deficiency in any one of a great number of factors can render a species incapable of being domesticated. Therefore, all successfully domesticated species are not so because of a particular positive trait, but because of a lack of any number of possible negative traits.

and appropriateness of their pension schemes, policymakers in the region would be well served to keep that principle in mind.³

Population aging and the provision of old-age pensions have worried policymakers for a long time. This is because it is generally assumed that individuals tend to be myopic with regard to retirement savings (Aaron and Reischauer 1998) and to the implicit social obligation of governments to ensure that all citizens, especially the old, have enough resources to meet their basic needs.⁴ Government authorities all over the world have faced the question of whether their prevailing pension arrangements would be good enough to provide income security in old age to a significant share of the population.⁵ The search for sustainability of collective insurance has been a permanent challenge for policymakers because of the dual objectives to cover most of the population, while maintaining financial balance. Furthermore, having realized that their established pension schemes might not be up to the task to properly address future developments, governments have struggled to identify what their pension system should look like in the future, and how to transition from their current regime to a new approach.

Public expenditure on pensions is frequently one of the largest items in the budgets of countries (Brunton and Masci 2005), and this phenomenon has accelerated as populations around the world have aged due to increased life expectancy and declining fertility rates. The Latin America and Caribbean region has consistently shown rapid population aging, putting additional pressure on already stressed pension systems. Most if not all of the changes to pension schemes all over the world have been made because of the lack of long-term financial viability of the prevailing regimes. These adjustments resulted from the implicit fiscal pressures embedded in the government-operated pension schemes, as well as from pressing trends in demographic variables. Countries across the globe have thus adjusted their pension systems by modifying some of their parameters

³ In this chapter, the Caribbean refers to the six countries in the Inter-American Development Bank's Caribbean Country Department: The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago.

⁴ Agnew and Szykman (2010) note how overwhelmed employees feel when making savings decisions in a context in which the level of financial education is insufficient. Thaler and Sunstein (2008) suggest that automatic enrollment of employees in pension systems by employers is the best way to raise pension savings. However, they warn that excessive options in a pension savings plan can lead to greater confusion and difficulty that can reduce participation. Barr and Diamond (2008) share a similar view.

⁵ This includes poverty relief, consumption smoothing, and insurance against risks during working life and in old age (OECD 2018a).

such as the retirement age or contribution rates, and in many instances by drastically overhauling their entire system. Historical traits, political considerations, and even some herd behavior have all been determinants of the main alterations of pension systems. Moreover, as some of the more recent designs of pension schemes have also shown some faulty features, further adjustments have been taking place almost on a continuous basis. Regardless of these many efforts, however, properly addressing pension reform in many countries remains an unfinished task.

Pensions systems in the Caribbean were created during the 1960s when countries in the region were gaining their independence. In most cases, the systems were based on those with which the countries were already familiar—primarily the British or Dutch systems. Over the course of the past 60 years, the Caribbean countries have maintained defined-benefit pay-as-you-go pension systems (PAYGO), and some have introduced parametric reforms that provided temporary relief to the financial sustainability of their pension schemes (IMF 2016). However, these countries will need to further adjust or redesign their pensions systems in the face of an uncertain and challenging future. Due to demographic changes, adults ages 65 and over will constitute 20 percent of the population of the six Caribbean countries analyzed here by 2050, an increase of around 11 percentage points from the current share. This transition will put pension systems in the Caribbean under increased pressure in the coming years. This chapter aims to identify some pressing issues in Caribbean pension systems that will require the authorities' attention in order to ensure the functionality and financial sustainability of those systems.

The next section of this chapter presents a taxonomy of some of the most common pension schemes, enumerating their main features as well as some of their advantages and disadvantages. It also presents some of the challenges to pension reform in Latin America over the years, especially after Chile's major overhaul of its pension regime in 1981, and the changes made to pension schemes in the region to confront these challenges. An interesting conclusion from this analysis is that there is no pension scheme design that is optimal for every country and for every circumstance. Hence, special emphasis is given to consideration of a multi-pillar approach to pension systems to address different segments of the population and to allow for complementarities among the possible regimes within a country. Under a multi-pillar approach, each country must decide on the appropriate complementarities among pension pillars and, given its own specific circumstances, choose the best and most feasible mix of pillars and corresponding parameters. When deciding on the country's pension alternatives, policymakers need to give special attention to variables such as long-term

financial feasibility, anticipated replacement rates, coverage of the population, strains on public finances, and administrative costs.

The chapter then highlights demographic trends in Caribbean countries and compares them to other regions in the world. The old-age dependency ratio (the ratio between the 65+ population and the 15-to-64-year-old population) serves as an indicator of the financial pressure on the actively working population to support the dependent population. An aging population negatively affects the long-term sustainability of pension plans, mainly PAYGO schemes, because the income flow of the younger cohorts is reduced while expenses increase. While it took Europe 65 years to double its old-age dependency ratio between 1950 and 2015, the rising life expectancy and falling fertility rates in Caribbean countries are expected to double the old-age dependency ratios in only 25 years. The experience of other regions that have already undergone an aging process is indicative of what the Caribbean countries can expect in the future as their population ages, and of the pressure this phenomenon will exert on old-age pension expenditures. The rapid aging of the population is one of the main determinants of the increase in social protection expenditures. As of today, the Caribbean countries with the highest social protection expenditures as a percentage of GDP are precisely those with the highest old-age dependency ratios. Thus, as the population aging process continues, social protection expenses are also expected to increase. An aging population in the Caribbean countries poses increasing challenges to policymakers to properly provide public services to the elderly while seeking to sustain their fiscal accounts in order.

The chapter then presents the main features of the provision of social protection for the elderly in Caribbean countries. The analysis specifically focuses on the design, benefits, coverage, contributions, eligibility criteria, and administrative costs of pension systems for both old-age social assistance programs (zero pillar) and social insurance programs (first pillar). Replacement rates offered by social insurance programs under different assumptions and by gender are estimated. The analysis concludes that pension schemes in the Caribbean countries have ample room for improvement to achieve adequate benefits and expanded coverage of the population. This section also provides estimates of expenses for the next three decades for pension systems in Caribbean countries. The results show that the financial sustainability of the pension schemes is at risk, and that without any major reform the increasing pension expenses in these countries will erode the governments' ability to provide other relevant services to the population.

The chapter concludes by offering insights on the main challenges facing pension systems in Caribbean countries in the coming decades.

8.1. A Brief Taxonomy of Pension Schemes

Following Lindbeck and Persson (2003), pension regimes can be classified according to three binary characteristics: (1) actuarial versus non-actuarial (depending on the correspondence between individual contributions and individual benefits, i.e., their actuarial fairness), (2) funded (retirement pensions basically financed by the return on previously accumulated pension funds) versus unfunded (generally PAYGO systems in which current employees finance the pensions of retirees and government transfers are used to cover any deficit), and (3) defined-benefit (either a fixed amount or determined by the individual's previous earnings and the number of years of contributions) versus defined-contribution (benefits are endogenous, i.e., they depend on the contribution history and the returns on these contributions). Most countries have created retirement income regimes that combine these characteristics. As a result, pension systems are diverse and involve different features.⁶ For example, some countries have tended to rely on defined-benefit pension schemes, typically complemented by a basic pension scheme. Other countries have defined-contribution pension systems based on individual accounts that often coexist with a defined-benefit scheme (Amaglobeli et al. 2019).

Initially proposed by Chancellor Otto von Bismarck in the 19th century, PAYGO schemes were adopted by many countries in the 1930s. Under this system, pensions are paid out of the current contributions of active members, and the defined benefit or pension is determined beforehand, generally as a fraction of the employee's salary. This type of collective insurance is based on intergenerational solidarity, which implies mandatory contributions in an insurance system that generates a pension at the age of retirement. Under these schemes, replacement rates are pre-determined, and workers interpret these contributions as intergenerational solidarity whose compensation is the payment of a pension when the requirements for access to the benefit are met. Retirement income thus basically depends on the number of years of contributions and individual pensionable earnings. Under this modality, governments assume both longevity and financial risks. That is, the risk governments face is to follow through on the pledged pensions when individuals live longer than expected and returns on the financial assets that finance pensions are lower than anticipated.

PAYGO systems with defined benefits can be financially sustainable in countries with a high proportion of working people in the total population, but they require periodic and frequent actuarial studies to assess

⁶ OECD (2019a) presents a full range of pension regimes.

their sustainability. Criticism of these systems focuses on inadequate public administration of benefits due to the lack of capacity of the government as an administrator of collective savings, and on the possibility that governments could fail to fulfill their obligation to meet pension expenses. Furthermore, intergenerational solidarity can be difficult to maintain given that the financial equilibrium of collective insurance depends on demographic growth and productivity. Thus, the financial sustainability of these systems relies on the assumption that current contributions will suffice to pay out pensions. However, in a scenario of declining population growth and increasing longevity, this arrangement becomes less feasible financially. To tackle the financial sustainability problems of their PAYGO systems, various countries have undertaken measures to replace them gradually and partially with alternative pension schemes.

In 1981, Chile implemented significant reforms to its pension scheme in order to address the fiscal unsustainability of its PAYGO system, the perceived lack of capacity of the state as an administrator of collective savings, the need to meet its pension disbursements obligations, its aging population, and the need to promote the development of domestic financial markets. Specifically, Chile moved away from a PAYGO system to a scheme in which contributions were placed in individual accounts managed by private firms, and in which the accumulated assets were invested in income-yielding assets.

In such funded defined-contribution schemes, the final pension is uncertain because it depends, among other things, on the asset performance of the accumulated contributions, and on life expectancy at retirement. Compulsory contributions flow into an individual account and the accumulation of contributions and investment returns becomes a monthly pension at the time of retirement. However, replacement rates may turn out to be low, especially for those individuals with low income levels and a short contribution history.

Chile's move to a defined-contribution scheme resulted in a new wave of countries adopting similar schemes. An influential World Bank publication in 1994 endorsed a multi-pillar pension system, a stronger emphasis on defined-contribution systems administered by the private sector, and moving away from the defined-benefit regimes administered by the public sector in which financial intermediation is prioritized. The publication underscored a wave of pension system reform that resulted in a significant departure from defined-benefit programs. The World Bank's three-pillar system formalized the notion of a multi-pillar system: a mandatory PAYGO defined-benefit scheme (first pillar); a privately managed, mandatory-funded, defined-contribution system (second pillar); and a voluntary defined-contribution scheme (third pillar) (World Bank 1994).

From 1988 to 2008, 29 countries introduced systemic reforms that included to different degrees a defined-contribution pension pillar like that of Chile (Holzmann 2013). These entailed the creation of privately managed and invested pension pillars with defined contributions and undefined benefits. Latin America was one of the regions that undertook these reforms most avidly.⁷ Pension reform in the region thus departed from the highly generous programs that had been established in the early 1920s, initially to meet the needs and demands of specific occupational groups such as the armed forces, public employees and teachers, but later extended to all urban sector wage earners.⁸ The defined-contribution system based on individual capitalization accounts also expanded to some Central and Eastern European countries with inefficient state apparatus and over-indebted pension schemes. After the fall of the Iron Curtain and the transition of these countries to a market economy, they envisioned the defined-contribution system as a more promising alternative for their existing pension regimes.

Despite the widespread adoption of the Chilean model, this pension scheme was not exempt from some faulty design issues that became evident as time passed. While solving some of the problems of the PAYGO schemes, the model failed to produce the expected benefits and some issues remained unresolved. For example, significant segments of the population were not covered (informal labor and self-employment), the system produced relatively low replacement rates and had high administrative costs, and the system was perceived as lacking competition among private pension funds managers, among others.⁹ As a result, some of the countries that eagerly adopted the defined-contribution scheme started to show increasing dissatisfaction with their choice. Argentina, Hungary, and the Slovak Republic reversed their pension reforms. In Italy, Latvia, Poland, and Sweden, there

⁷ From the early 1990s to the early 2000s, pension reform in Latin America followed three different directions. Some countries, such as Chile, Bolivia, Mexico, El Salvador, and the Dominican Republic, opted for replacing PAYGO systems with individually funded retirement schemes. Others, such as Colombia and Peru, introduced a parallel system where employees had to choose either the invested retirement system or the PAYGO system. The third alternative was a mixed system where both models coexisted and complemented each other, as in Argentina, Uruguay, and Costa Rica (Mesa-Lago 2005).

⁸ Farm workers, independent workers, microentrepreneurs, and domestic employees were the last to receive coverage, although with much less generous benefits and stricter eligibility conditions (Mesa-Lago 1986).

⁹ Further reforms were later incorporated in Chile to address some of these drawbacks and improve the system. These included the introduction of a solidarity pillar, allowing for more flexibility in the withdrawal of resources in exceptional cases, and some elements to promote greater competition in the system and thus reduce high administrative costs and increase replacement rates (Cruz-Saco et al. 2018).

has been a transition towards notional (non-financial) defined-contribution systems, which are similar to the PAYGO system except that the annuity received at retirement reflects a notional rate that keeps the financial solvency of the system in check. In Estonia, Latvia, and Poland, contributions to individual capitalization pillars have been reduced (Holzmann 2013).

The unsuccessful quest for a pension regime capable of addressing a multitude of objectives has led countries over the past two decades to experiment with either coexisting multiple systems or a single system that encompasses elements of both defined-benefit and defined-contribution schemes. Variations of the multi-pillar system have thus been widespread, and pension regimes have been amended to further incorporate additional pillars, taking as a departure point the multi-pillar structure advocated by the World Bank (Holzmann and Hinz 2005; Holzmann, Hinz, and Dorfman 2008). This framework has encompassed the following elements: (1) a non-contributory zero pillar typically financed by the local, regional, or national government to alleviate poverty by providing the elderly with a minimal level of protection; (2) mandatory first and second pillars that usually take the form of PAYGO and defined-contribution capitalization systems, respectively; (3) a voluntary third pillar; and (4) a non-financial fourth pillar. Some considerations about these pillars are discussed next.

The zero pillar ensures that people with low lifetime incomes are provided with basic protection in old age, including those who only participated marginally in the formal economy. This pillar thus provides retirement income to individuals independent of their previous earnings and contributions. The introduction of a zero pillar into a multi-pillar framework reflects the recognition that both PAYGO and individual capitalization schemes still leave an important share of the population without income in old age, especially in countries with high levels of labor informality. This pillar thus represents the first layer of social protection in old age, as its rationale is based on the expectation that a government should at least provide basic pension benefits to its population, even in cases of individuals who have not contributed to a pension scheme. Nonetheless, zero pillar programs, also known as social assistance programs, tend to exert direct pressure on public finances, and thus their applicability and coverage is limited, especially in times of rapid aging of the population.

The mandatory first pillar entails contributions linked to earnings with the objective of replacing some portion of lifetime pre-retirement income. First pillars address, among other risks, individual myopia, low earnings, and inappropriate planning horizons due to the uncertainty of life expectancy. These are typically financed via social insurance (PAYGO), and thus subject to demographic risks. Most of these schemes have been amended

with parametric reforms, such as increasing the retirement age, and thus placed on a more sustainable financial path.

The mandatory second pillar has typically taken the form of an individual savings account via a defined-contribution plan with a wide set of design options for investment management and other design options for withdrawal. These defined-contribution capitalization systems establish a clear linkage between contributions, investment performance, and benefits, as the pension under this scheme is entirely financed by the savings of the worker. Savings are of a defined-contribution nature, but benefits tend to diverge depending on a series of variables such as the capitalization of the pension savings fund, the number of years of contribution, and the contribution density, retirement age, life expectancy, and cost associated with the acquisition of a retirement annuity. Furthermore, second pillar schemes support enforceable property rights, and also promote financial market development, since the pool of financial resources constitutes an important source of domestic savings that in turn feeds into the financing of productive activities. Supporters of this pillar argue that it encourages personal savings because participants would stop subsidizing other workers with lower wages or whose behavior is affected by adverse selection and moral hazard (Cruz-Saco et al. 2018). Nonetheless, these schemes may subject participants to financial risks and have been prone to high transaction and administrative costs.

The voluntary third pillar has taken different forms, such as employer-sponsored schemes or individual savings for retirement, among others. Employer-sponsored schemes have been common in advanced countries such as the United States (401(k)), Germany (Riester pension), and New Zealand (KiwiSaver). These schemes have traditionally offered some tax advantages and matching contributions from employers that incentivize voluntary contributions (Hinz 2009). Voluntary schemes have also aimed at reaching the informal sector and providing an efficient means to supplement and diversify benefits for the different income groups. OECD (2013) emphasizes effective financial education to promote voluntary savings for retirement. Barr and Diamond (2008) and Bernheim and Garrett (1996) also acknowledge the positive impact of financial education on preemptive savings. Also recognized is the crucial role of public policy in adopting broad strategies to disseminate pertinent information that allows people to closely monitor the evolution of their pension savings, and in promoting financial education as a relevant vehicle to motivate voluntary pension savings (OECD 2018b).

The non-financial fourth pillar—which includes access to family support, healthcare, housing, and other individual financial and non-financial assets such as home ownership, among others—has also been effective in providing assistance to the old-age population (Holzmann and Hinz 2005).

Each of the pillars described above has evolved into variations that countries have adopted to meet their specific circumstances. Multi-pillar systems thus typically consist of the combination of non-contributory, collective insurance, and private saving schemes. For example, a basic non-contributory pillar financed with general government revenues could be available for those individuals (such as vulnerable groups) who did not have access to any of the more established pension pillars, or for those individuals for whom their entitled pension is below an established level. This non-contributory pillar could in turn be combined with mandatory collective insurance or private savings for all workers who, at the time of retirement, would receive a supplementary pension as a defined benefit or as an annuity derived from individual capitalization accounts. The referred system could also be complemented with voluntary pension savings in the financial system from which retirees would derive a complementary financial income. Hence, the multi-pillar system has several advantages. It reduces exposure to a single type of risk (demographic, political, financial, unemployment, poverty, etc.), and allows for savings alternatives for those who are able to combine their pension contributions to an established formal scheme with their voluntary savings.

To sum up, multi-pillar designs provide more flexibility than mono-pillars and are therefore typically better able to address the needs of the main target groups in the population and provide more security against the various risks faced by pension systems. A multi-pillar approach allows for complementarities for interaction among alternative pension schemes and for addressing the complex array of pension issues. There are no universal solutions to pension reform; neither is there a simple model that can be applied in all settings. However, a multi-pillar approach is a good point of departure. Undertaking pension reform is a complex endeavor and requires significant and careful consideration of numerous aspects. The scope for both parametric and structural reform considerations is wide and challenging. Policymakers need to be aware of the entire array of possibilities and adapt the intended model to their own specific circumstances.

8.2. Demographics and Social Protection in Caribbean, Latin American, and Organisation for Economic Co-operation and Development Countries

A simple indicator of the financial pressure on the actively working population to support the dependent population is the old-age dependency ratio, defined as the ratio of the number of elderly people at an age when they are generally economically inactive (65 and over) compared to the

Table 8.1. Demographic Characteristics of Caribbean, Latin American, and Organisation for Economic Co-operation and Development Countries, 2019

Country	Population (thousands)			Old-age dependency ratio (percent) ^a
	Total	65 years and over	15–64 years	
The Bahamas	389	29	274	10.6
Barbados	287	47	193	24.3
Guyana	783	53	515	10.3
Jamaica	2,948	263	1,992	13.2
Suriname	581	41	387	10.6
Trinidad and Tobago	1,395	155	957	16.2
Caribbean	6,384	587	4,134	14.2
Latin America	603,128	51,807	414,456	12.5
OECD	1,308,056	227,973	817,108	27.9

Source: Demographic numbers were taken from the population forecasts in United Nations (2019).

^a Population aged 65 or older, divided by population aged 15 to 64.

number of people of working age (15–64 years old). This indicator is of particular importance in mandatory PAYGO schemes in which the working population finances the pensions of retirees. As previously mentioned, the long-term sustainability of these defined-benefit schemes comes into question as the population ages and the working population increasingly carries a heavier burden to finance the pensions of an expanding group of retirees.¹⁰ Currently, most Caribbean countries have lower old-age dependency ratios than Latin American and OECD countries (Table 8.1).¹¹

¹⁰ The “demographic dividend,” which is the transitory added productivity observed as the working-age population grows more rapidly than the dependent population, provides a window of opportunity for an increase in per capita input (Mason and Lee 2006). For Latin America and the Caribbean, this window of opportunity is expected to last until 2035–2040, hence the urgent need for countries to better prepare to face the effects of an aging population. Policymakers can make the most of this dividend by enhancing the skills and productivity of the labor force, thus alleviating the burden of dependents on the labor force (Izquierdo and Pessino 2018).

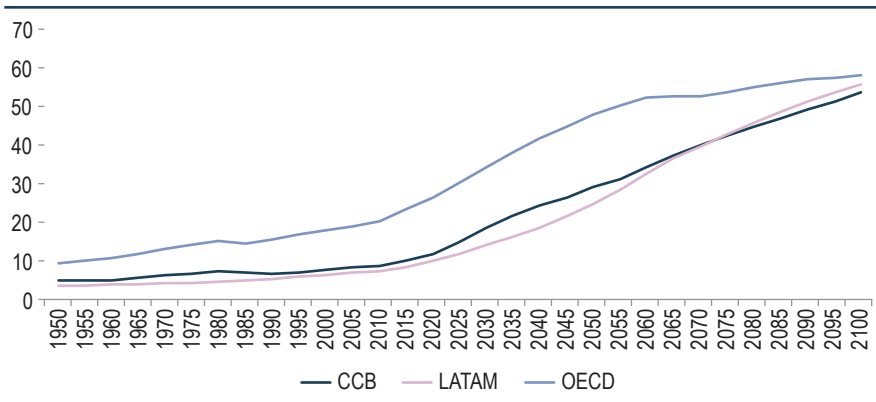
¹¹ Latin America includes 18 countries: Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela. The OECD includes 36 countries: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Korea, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States. This list was updated in July 2019.

Barbados, however, has an old-age dependency ratio of 24.3 percent, only a few percentage points below the OECD level of 27.9 percent. The high proportion of older persons in Barbados is due in part to the country’s declining fertility rate since the 1970s and past emigration (U.S. Department of Commerce 1989). Trinidad and Tobago has a ratio of 16.2 percent, slightly above the Latin American ratio of 12.5 percent, followed by Jamaica (13.2 percent) and The Bahamas, Guyana, and Suriname in the 10 percent range.

Historically, OECD countries have had higher old-age dependency ratios compared to Latin American and Caribbean countries. However, while it took Europe 65 years to double its old-age dependency ratio between 1950 and 2015, the rising life expectancy and falling fertility rates will result in the doubling of the old-age dependency ratios in only 30 years for Latin American countries (from 2015 to 2045) and 25 years for Caribbean countries (from 2015 to 2040) (Figure 8.1). According to United Nations (2019) estimates, the population over 65 in Latin American and Caribbean countries grew at a much faster rate than in any other region in the world between 2000 and 2019.

Sustained increases in old-age dependency ratios negatively affect the long-term sustainability of pension plans, mainly PAYGO schemes, since the income flow of the system is reduced while pension expenses keep on growing. Most OECD countries that have high old-age dependency ratios along with a defined-benefit component in their public pension systems

Figure 8.1. Old-Age Dependency Ratios in Caribbean, Latin American, and Organisation for Economic Co-operation and Development Countries, 1950–2100 (population ages 65+ as a percent share of the population ages 15–64)



Sources: United Nations (2019) and the authors.

have spent more resources on old-age pensions than Latin American and Caribbean countries (Izquierdo and Pessino 2018). Nonetheless, demographic changes in Latin America and the Caribbean, and specifically in Caribbean countries, will undoubtedly have repercussions on government expenditures on old-age programs and thus on all social protection expenditures. The paragraphs that follow aim to compare social protection expenditure in Caribbean countries with that of Latin American and OECD countries. The comparison among regions is indicative of what the Caribbean countries can expect in the future as their populations age, and of the pressure this process will exert on old-age pension expenditures. An aging population and longer life expectancy in the Caribbean poses increasing challenges to policymakers to maintain adequate provision of public services for older adults while seeking to sustain an appropriate balance in their fiscal accounts.

Social protection programs provide benefits for old age, disability, survivors, work injury, unemployment, family allowances, sickness, maternity, and health protection. The benefits are usually covered by a mix of contributory schemes (social insurance) and non-contributory tax-financed benefits, including social assistance. All Caribbean countries provide some sort of social protection program with similar social purposes (Table 8.2).

Social protection expenditure in Caribbean countries averages 2.9 percent of GDP (Figure 8.2, panel 1), still below the average of Latin American countries (4.1 percent of GDP; Figure 8.2, panel 2). Nonetheless, Caribbean countries show significant differences in the amount spent on social protection vis-à-vis other social expenditures. In particular, social protection expenditures in Trinidad and Tobago and Barbados are among

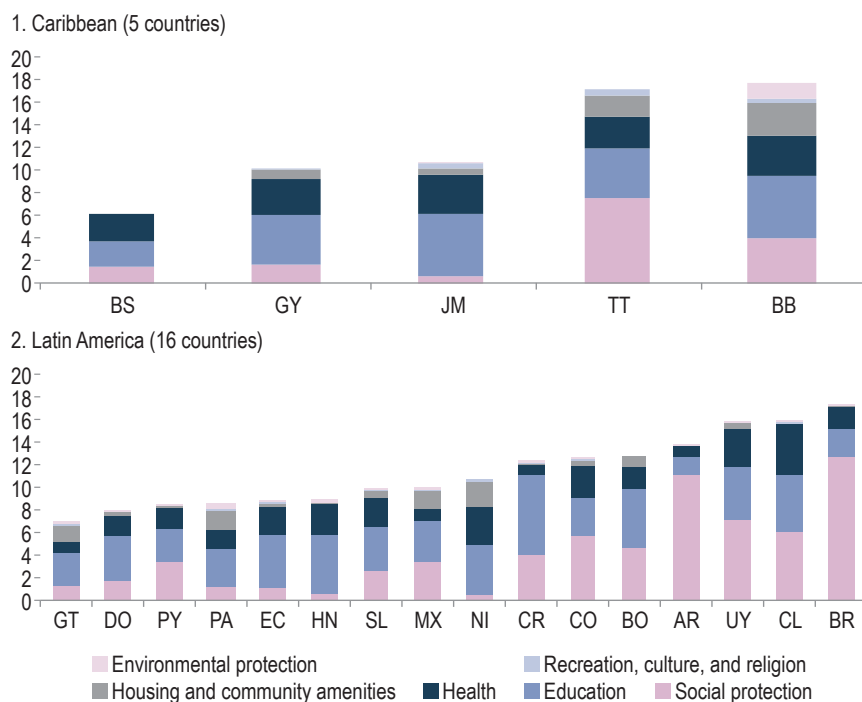
Table 8.2. Social Protection Programs in Caribbean Countries, 2019

	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
Old-age, disability, and survivors	X	X	X	X	X	X
Work injury	X	X	X	X	X ^a	X
Unemployment	X	X	—	—	—	—
Family allowances	—	X	X	X	X	X
Cash sickness benefits	X	X	X	X ^a	X ^a	X
Cash maternity benefits	X	X	X	X	—	X
Medical benefits	X	X	X	X	X	X

Source: SSA (2020).

^a Employer-liability system only.

**Figure 8.2. Central Government Social Expenditure by Country, 2018
(percent of GDP)**



Sources: ECLAC (2019) and the authors.

Note: Suriname is not included due to lack of information. Latin America includes 16 countries in this exercise: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, and Uruguay.

the largest components of total social expenditure.¹² While in Jamaica social protection spending as a share of GDP is one-tenth of education spending, in Trinidad and Tobago social protection spending is the largest component of social expenditure and represents about 1.5 times the amount spent on education (Figure 8.2, panel 1). An interesting pattern to note is that the Caribbean countries that show higher old-age dependency ratios (Barbados and Trinidad and Tobago) are also those that incur higher social expenditure as a share of GDP, in particular social protection expenditure.

¹² Social expenditure includes government spending on social protection, education, health, housing and community amenities, environmental protection, and recreation, culture, and religion.

Expenditure on social protection also varies among Latin American countries. For instance, Brazil and Argentina spent around 12 percent of their GDP on social protection in 2018, about six times what Guatemala, Panama, Ecuador, Nicaragua, and Honduras spent. Most countries in Latin America and the Caribbean have increased their spending on social protection as a share of GDP in recent years (ECLAC 2019), and a sub-sample of Latin American countries is expected to increase their pension expenses from 5.9 percent of GDP in 2015 to 13.9 percent of GDP in 2065 (Izquierdo and Pessino 2018).¹³ As will be seen in the next section, if Caribbean countries do not undertake pension reform, public pension expenditure as a share of GDP is expected to increase on average more than 100 percent between 2019 and 2050.

As explained above, the economic and demographic structure of each country, together with the design parameters of their respective pension schemes, determines the coverage, adequacy, and financial sustainability of these programs. The next section outlines the challenges that pension systems in Caribbean countries will face in the years ahead.

8.3. Pension Programs in Caribbean Countries: Current Situation and Prospects

This section presents the main characteristics of pension systems in Caribbean countries, with special attention given to their design, coverage, benefits, and costs. It also estimates the potential costs of pension programs in Caribbean countries until 2050. Pension programs in these countries are provided through social assistance and social insurance, which are equivalent to the zero and first pillars of the multi-pillar system, respectively. As already mentioned, zero and first-pillar programs have different objectives, hence their beneficiaries' eligibility, benefits, coverage, and design features also differ. This section provides a brief explanation of the main characteristics of these programs.¹⁴

Among Caribbean countries, the zero-pillar program is used in universal and means-tested plans. The universal plans consist of minimum stipends for the elderly regardless of earnings. Eligibility may vary with years of

¹³ Argentina, Brazil, Chile, Colombia, Costa Rica, El Salvador, Honduras, Mexico, Peru, and Uruguay.

¹⁴ It is important to mention that in Caribbean countries workers can also access voluntary savings accounts (third pillar) provided by private companies and life insurers, which could supplement savings placed in mandatory systems. This chapter does not analyze this pillar because the objective is to focus on old-age pension programs offered by governments.

Table 8.3. Eligibility Conditions of Pension Systems in Caribbean Countries, 2019

Country	Zero Pillar (Social Assistance)			First Pillar (Social Insurance)			
	Statutory pensionable age	Means-tested	Universal	Statutory pensionable age	Early pensionable age	Contributions (weeks)	Minimum contributions for old-age grant (weeks)
The Bahamas	65	X		65	60	500	150–500
Barbados	67	X		67	60	500	50–500
Guyana	65		X	60	—	750	50–750
Jamaica	60	X		65	—	520	52–520
Suriname	60		X	60	—	260	—
Trinidad and Tobago	65	X		60–65	—	750	<750

Sources: SSA (2020) and the authors.

residence, but most of these programs have universal coverage. Guyana and Suriname use these types of plans.¹⁵ Means-tested plans provide a monetary benefit based on individual or family income and/or assets that are below designated income levels. Most of these programs seek to focus their transfers on communities living in poverty (SSA 2020). In Caribbean countries, these programs have an additional requirement associated with a lack of access to an old-age pension in PAYGO systems. The Bahamas, Barbados, Jamaica, and Trinidad and Tobago use these types of plans (Table 8.3)

In all Caribbean countries, first-pillar schemes are embedded in mandatory PAYGO systems (social insurance). Coverage is mandatory for employees and self-employed workers (except in Trinidad and Tobago, which excludes self-employed workers from social insurance). To be entitled to an old-age pension, the insured must reach the legal retirement age and have contributed during a specific number of weeks to the system over his/her working life. The median of Caribbean countries shows that around 510 weeks (around 10 years) of contributions are required to qualify for a pension.

¹⁵ In the case of Suriname, one of the requirements is to have contributed at least 520 weeks (10 years) to the PAYGO system, which doubles the 260 weeks (5 years) of required contributions to receive an old-age pension in the PAYGO system. Meeting this requirement would result in an additional transfer to those who have made more contributions to the PAYGO system, which, as will be seen in the following paragraphs, was designed to have a defined-benefit replacement rate.

The statutory retirement age for full benefits is the same for men and women and varies between 60 and 67 years, except for Trinidad and Tobago, which is the only country with a flexible retirement age that ranges from 60 to 65. Late retirement is allowed with greater benefits in The Bahamas and Barbados. Optional early retirement with reduced benefits and deferred pensions is also available in The Bahamas and Barbados.

In most Caribbean countries, except Suriname, the first pillar involves a minimum contribution-based grant that aims to financially support workers who contribute to the system but fail to achieve the eligibility requirements for an old-age pension in the PAYGO system. To access these plans, individuals must meet a minimum amount of contributions to the social protection system (Table 8.3).

Old-age social assistance programs (zero pillar) are often funded entirely by the government, which means that the beneficiaries do not contribute directly to these programs. Barbados is the only Caribbean country that charges a payroll tax to fund these programs. For their part, social insurance programs (first pillar) are primarily funded through compulsory payroll taxes paid to the government by employers and employees. Contributions are often paid via a single overall social protection payroll tax that covers several contingencies. These contribution rates apply to wages up to a legal limit (salary ceiling), which the legislation increases from time to time (IMF 2016).

Caribbean countries show a wide spectrum of contribution rates. Barbados has the highest contribution rates to old-age, disability, and survivors programs: employees and employers contribute 8.85 percent and 8.75 percent of the insured's covered salary, respectively. Jamaica has the lowest levels of payroll tax contributions to social protection programs: insured employees and employers each pay 2.75 percent of the gross covered salary (Table 8.4).

According to the latest available data, the contribution rates for old-age, disability, and survivors programs as a percentage of the covered salary in Caribbean countries (11.5 percent) are lower than the average among Latin American and Caribbean countries (13.2 percent) and OECD countries (19.1 percent) (Table 8.4).

According to various reports on social insurance programs in certain Caribbean countries, the largest component of contributions to social protection systems is directed to the payment of retirement benefits.¹⁶ In most Caribbean countries, social insurance benefits depend on the number of

¹⁶ See The Bahamas National Insurance Board (2017), Barbados National Insurance Office (2017), and Guyana National Insurance Scheme (2018).

Table 8.4. Contribution Rates for Old-Age, Disability, and Survivors Programs in Caribbean, Latin American, and Organisation for Economic Co-operation and Development Countries, 2019 (percent of covered salary)

Country	Employee	Employer	Total
The Bahamas	3.9	5.9	9.8
Barbados	8.85	8.75	17.6
Guyana	5.6	8.4	14
Jamaica	2.75	2.75	5.5
Suriname	2.5	6.5	9.0
Trinidad and Tobago	4.4	8.8	13.2
Caribbean average	4.7	6.9	11.5
Latin America and Caribbean average	6.0	7.2	13.2
OECD average	7.8	11.2	19.1

Sources: SSA (2020); OECD (2019a); and the authors.

Note: The average for Latin American and OECD countries provides an overview of contribution rates for public and private pension systems for salaried employees with average earnings. Contribution rates for self-employed and civil servants are not included in the estimates. Contribution rates are not, in general, directly comparable across programs and countries. In some cases, the contribution rates can vary depending on earnings and are subject to contribution floors and ceilings. The average or lowest rate in the range is used when the contribution rate varies. In most cases, the administrative fee for individual accounts is not included in the average contribution rates.

contributions and the last salary or average salary of the insured retiree during working age. In some countries, benefits as a proportion of the insured's covered salary fluctuate between a minimum and maximum replacement rate, which depends on the number of contributions. This is the case in The Bahamas, Barbados, and Guyana, where social insurance replacement rates vary between 30 and 60 percent (Table 8.5).

In addition, social insurance programs in all Caribbean countries except Guyana have minimum pensions to guarantee a basic standard of living for pensioners, and Barbados, Suriname, and Trinidad and Tobago have a limit for a maximum pension. Suriname (PPP\$109) provides the lowest monthly benefit in purchasing power parity (PPP) dollars among Caribbean countries, followed by Jamaica (PPP\$193), The Bahamas (PPP\$305), Barbados (PPP\$429), and Trinidad and Tobago (PPP\$701). Suriname (PPP\$1,816) also has the highest monthly maximum benefit, followed by Barbados (PPP\$1,182) and Trinidad and Tobago (PPP\$954) (Table 8.5).

The above benefits refer to the potential old-age pensions stipulated by law. The exercise that follows aims to estimate the average benefit from social insurance programs that retirees receive in Caribbean countries. Is it close to the minimum or maximum benefit offered by the program? Based on official reports and surveys, two proxies of the replacement rates provided

Table 8.5. Pension Benefits of Social Insurance in Caribbean Countries

	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
Benefit by law, 2019						
Benefit (LCU, monthly)	[275-...]	[956-2,633]	—	[13,600-...]	[300-5,000]	[3,000-4,079]
Benefit (U.S. dollars, monthly)	[275-...]	[478-1,317]	—	[101-...]	[40-670]	[444-604]
Benefit (PPP dollars, monthly) ^a	[305-...]	[429-1,182]	—	[193-...]	[109-1,816]	[701-954]
Benefit (percent of insured's covered salary)	[30-60%]	[40-60%]	[40-60%]	—	—	—
Estimated benefits						
<i>Benefit (LCU, monthly)</i>						
Average, pensioners ^b	539	1,367	37,578	14,231	1,313	3,078
Men	525	1,406	36,014	9,755	1,235	2,859
Women	441	960	27,488	17,291	1,371	3,374
Average, new pensioners ^c	593	1,276	43,808	10,477	n.a.	3,540
Men	526	1,012	33,035	11,218	n.a.	3,540
Women	1,130	1,495	28,643	15,489	1,235	3,000
Simulation (assuming 100% contribution density) ^d	1,061	1,384	28,643	15,464	1,235	3,000
<i>Salary formal sector (LCU, monthly)^e</i>						
Average, employed workers ^f	1,891	1,755	91,328	41,515	1,820	5,719
Men	2,031	2,118	102,673	41,122	1,960	5,719
Women	1,774	1,624	77,257	41,784	1,665	5,719
Average, new pensioner's last salary ^g	2,840	2,517	103,314	49,148	2,631	9,950
Men	1,959	2,614	63,331	47,030	2,358	9,361
Women						

(continued on next page)

Table 8.5. Pension Benefits of Social Insurance in Caribbean Countries (continued)

	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
Simulation ^d						
Men	1,958	2,591	48,683	39,898	1,800	5,860
Women	1,839	2,397	48,683	38,534	1,800	4,981
Gross replacement rate ^h						
Average pensioner's benefit/average salary						
Men	28.5	77.9	41.1	34.3	72.1	53.8
Women	25.8	66.4	35.1	23.7	63.0	50.0
Average new pensioner's benefit/average last salary						
Men	24.9	59.1	35.6	41.4	82.3	59.0
Women	20.9	50.7	42.4	21.3	n.a.	35.6
Simulated benefit/simulated salary (assuming 100% contribution density)						
Men	26.8	38.7	52.2	23.9	n.a.	37.8
Women	57.7	57.7	58.8	38.8	68.6	51.2
Women	57.7	57.7	58.8	40.1	68.6	60.2
Memo						
Exchange rate (LCU per U.S. dollar), 2019	1	2	208.5	134.15	7.46	6.75
Implied PPP conversion rate (LCU per international dollar), 2019	0.90	2.23	101.07	70.59	2.75	4.28
Year of data						
Average pensioner's benefit	2017	2019	2016	2018	2017	2019
Average pensioner's benefit, by gender	2013	2016	2017	2018	2017	2019

(continued on next page)

Table 8.5. Pension Benefits of Social Insurance in Caribbean Countries (continued)

	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
Average employed worker's salary in formal sector	2013	2016	2017	2018	2017	2019
Average new pensioner's benefit and last salary	2013	2016	2017	2018	—	2014
Simulated benefit and salary	2015	2015	2015	2015	2015	2015

Sources: Benefits by law in local currency units (LCUs) from SSA (2020); the exchange rate and the implied purchasing power parity (PPP) conversion rate from the IMF (2020); average pensioner's benefit of social insurance in The Bahamas from The Bahamas National Insurance Board (2017); Barbados from Barbados National Insurance Office (2017); Guyana from Guyana National Insurance Scheme (2018); Jamaica from STATIN (2018); Suriname from IDB (2017b); and Trinidad and Tobago from ILO (2018). The average pensioner's benefit and new pensioner's benefit by gender for The Bahamas from DSMF (2013); Barbados from SSD (2016); Guyana from IDB (2017a); Jamaica from STATIN (2018); Suriname from IDB (2017b); and Trinidad and Tobago from ILO (2018) and CSO (2014). The average salary and last salary in formal sector comes from IDB (2019) and the sources used for average pensioners and new pensioners. We have not included estimates of the average benefit of new pensioners because the sample for that age range was too small. The simulated benefit and salary comes from Altamirano et al. (2018) and the authors' own calculations.

Note: Ranges in brackets denote the minimum and maximum monthly benefit in local currency units (LCUs), U.S. dollars, and purchasing power parity (PPP) dollars. The lower (upper) value of the range is granted in cases where the pensioner's pension, given the number of contributions and/or the last/average salary, would be below (above) the minimum (maximum) amount stipulated by law. The Bahamas and Jamaica only have a minimum benefit, and Guyana has no benefit. n.a.: not available.

^a Shows how much the benefit is worth in current international dollars. It is estimated by dividing the benefit in local currency units (LCUs) and the PPP conversion rate. According to IMF (2020), PPP relates the variations in the nominal exchange rate between two currencies to variations in the respective countries' price levels.

^b Benefit of all pensioners over the statutory pensionary age. We used official sources for the averages in The Bahamas, Barbados, Guyana, and Trinidad and Tobago. For Jamaica and Suriname, we used a weighted average of the average pensioner's benefit by gender and the distribution of pensioners by gender.

^c Benefit of pensioners within five years after the statutory pensionary retirement.

^d Simulated benefit of a pensioner who earned the average salary in the formal sector and had a contribution density of 100 percent.

^e We define workers in the formal sector as those who contribute to the public pension system.

^f Average salary of employed workers in the formal sector with age between 15 years and the statutory age of retirement for each country.

^g Average salary of employed workers in the formal sector with age within five years before the statutory age of retirement for each country.

^h The gross replacement rate reflects the amount of retirement pension benefits relative to earnings at working age (OECD 2019a).

by social insurance programs in the Caribbean countries are estimated (Table 8.5). The first proxy is the ratio between the average benefit of all pensioners and the average salary of workers in the formal sector. The estimates suggest that Barbados (77.9 percent) has the highest replacement rate followed by Suriname (72.1 percent), Trinidad and Tobago (53.8 percent), Guyana (41.1 percent), Jamaica (34.3 percent), and The Bahamas (28.5 percent).

Results also show that there are differences in the replacement rates received by men and women.¹⁷ Women appear to receive higher replacement rates compared to men in Suriname, Jamaica, and Trinidad and Tobago, while the opposite occurs in Barbados. For the second proxy of the replacement rate, the benefit of relatively new retirees as a share of the last salary that men and women received when they retired is estimated (Table 8.5). This estimate measures the ratio between the benefit for pensioners within the first five years of the statutory retirement age and the average salary of the main occupation of workers in the formal sector within the five years prior to the statutory retirement age. Results suggest that new male pensioners have lower replacement rates than the average for all male pensioners in The Bahamas, Barbados, Jamaica, and Trinidad and Tobago. For new women pensioners, the replacement rate is lower than the average for all women in Barbados, Jamaica, and Trinidad and Tobago. The results also show a larger gap between the replacement rates of new pensioners by gender in The Bahamas, Barbados, and Guyana. Nonetheless, despite some acute differences in gender replacement rates, one cannot draw specific conclusions about systematic differentiation because the results seem to be sensitive to the sample used. A detailed analysis based on a more thorough set of information could perhaps help to infer whether differences among replacement rates by gender are systemic and significant.

Table 8.5 also shows the simulated replacement rate for social insurance programs under the assumption of a contribution density of 100 percent¹⁸ (Altamirano et al. 2018). These estimates show that insured retirees in Jamaica would receive a benefit as a share of their covered salary of 38.8 percent for men and 40.1 percent for women, which represent the

¹⁷ It is important to mention that different sources are used to estimate the average and gender replacement rates for The Bahamas, Barbados, Guyana, and Trinidad and Tobago. For these countries, official reports are used to estimate average replacement rates and surveys are used to estimate indicators by gender. However, for both ratios, the average salary of workers in the formal sector from the country surveys is used, which could differ from the actual covered average salary of the insured.

¹⁸ Represents the percentage of effective contributions registered by the worker assuming he contributes during all the months of his active working life (Altamirano et al. 2018).

lowest replacement rates among the Caribbean countries. The highest replacement rate for insured retirees with a contribution density of 100 percent comes from the social insurance program in Suriname (68.6 percent), which is also the only Caribbean country that has a higher replacement rate than the average (64.7 percent) of defined-benefit programs in Latin American and Caribbean countries (Altamirano et al. 2018).

As mentioned earlier in this chapter, social insurance programs aim to provide income security during retirement age. Social assistance programs seek to provide income to people at retirement age who do not qualify for an old-age pension that covers a minimum level of consumption. Among Caribbean countries, the design of these programs is similar. In most cases, benefits are provided through fixed cash transfers, except in Trinidad and Tobago, where benefits depend on the beneficiary's monthly income.

Countries with means-tested plans,¹⁹ such as The Bahamas (PPP\$280), Barbados (PPP\$404), and Trinidad and Tobago (PPP\$117 to PPP\$818), provide relatively high monthly benefits in PPP dollars, as opposed to Guyana (PPP\$203), Suriname (PPP\$191), and Jamaica (PPP\$32) (Table 8.6).

All social assistance programs in Caribbean countries, except Jamaica, provide a higher benefit than the lower-middle-income international poverty line (LMIPL) of \$3.20/day at 2011 international prices. Among Caribbean countries, the highest benefit (expressed with respect to the LMIPL) is provided by Trinidad and Tobago (7.4 times the LMIPL), followed by Barbados (4.2 times the LMIPL), The Bahamas (2.9 times the LMIPL), Guyana (2.1 times the LMIPL), Suriname (2 times the LMIPL), and Jamaica (about 30 percent of the LMIPL) (Table 8.6). The results also suggest that the replacement rates, measured as the ratio of benefit to GDP per capita, vary significantly in Caribbean countries. For instance, while Trinidad and Tobago has a replacement rate of 33.5 percent of GDP per capita, Jamaica's replacement rate is only 3.7 percent of GDP per capita. Barbados and Guyana have replacement rates of 29.8 and 23.4 percent of GDP per capita, respectively, while Suriname's rate is 13.6 percent and that of The Bahamas is 8.7 percent (Table 8.6).

It was noted earlier in this chapter that most of the contributions to social insurance programs are used to cover pension disbursements. Nonetheless, part of the contributions is used to cover the administrative expenses of these programs. These costs appear to be relatively high among Caribbean countries, ranging from 0.1 to 0.4 percent of GDP (Table 8.7).

¹⁹ The Bahamas, Barbados, Jamaica, and Trinidad and Tobago use social assistance means-tested plans, while Guyana and Suriname use universal plans. For more information on the eligibility criteria of social assistance programs see Table 8.3.

Table 8.6. Pension Benefits of Social Assistance in Caribbean Countries, 2019

	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago	
						Range ^c	Estimation
Benefit (LCU, monthly)	253	900	20,500	2,250	525	[500–3,500]	3,072
Benefit (U.S. dollars, monthly)	253	450	99	17	70	[74–518]	455
Benefit (PPP dollars, monthly) ^a	280	404	203	32	191	[117–818]	718
Benefit (percent of GDP per capita)	8.7	29.8	23.4	3.7	13.6	[5.5–38.2]	33.5
Benefit/International poverty line ^b	2.9	4.2	2.1	0.3	2.0	[1.2–8.4]	7.4
<i>Memo</i>							
Exchange rate (LCU per U.S. dollar)	1.00	2.00	208.50	134.15	7.46	6.75	6.75
Implied PPP conversion rate (LCU per international dollar)	0.90	2.23	101.07	70.59	2.75	4.28	4.28
GDP per capita (LCU, monthly)	2,903	3,022	87,635	61,064	3,874	9,165	9,165

Sources: Monetary benefits in local currency units (LCUs) are from SSA (2020); social assistance benefit of Jamaica is under the PATH Family Allowances section in SSA (2017); and the estimated benefit of Trinidad and Tobago is from ILO (2018). The GDP per capita for all countries is from IMF (2020); the exchange rate and the implied PPP conversion rate are from IMF (2020) and calculations by the authors.

Note: Ranges in brackets denote the minimum and maximum monthly benefit in local currency units (LCUs), U.S. dollars, and purchasing power parity (PPP) dollars.

^a Shows how much the benefit is worth in current international dollars. It is estimated by dividing the benefit in local currency units (LCUs) and the PPP conversion rate. According to IMF (2020), PPP relates the variations in the nominal exchange rate between two currencies to variations in the respective countries' price levels.

^b The denominator refers to the lower-middle-income international poverty line (LMIPL) of \$3.20 a day at 2011 international prices estimated by the World Bank. It is calculated by taking the amount of the benefit in PPP dollars and dividing it by 97.33, which is the \$3.20 a day poverty line for a month.

^c The social assistance benefit depends on the beneficiary's monthly income. The social insurance benefit has a minimum of TT\$3,000.

Table 8.7. Social Protection Administrative Costs in Caribbean Countries (percent)

Country	Year	As a Share of:	
		Contribution Income	GDP
The Bahamas	2017	17.60	0.40
Barbados	2019	3.40	0.32
Guyana	2016	13.90	0.30
Jamaica	2016	8.10	0.10
Trinidad and Tobago	2019	4.52	0.16
Caribbean		9.50	0.26

Sources: The Bahamas: The Bahamas National Insurance Board (2017); Barbados: Barbados National Insurance Office (2017); Guyana: Guyana National Insurance Scheme (2018); Jamaica: IMF estimates from IMF (2016); Trinidad and Tobago: ILO (2018); and calculations by the authors.

The Bahamas has the highest administrative expenses as a share of the contribution income (17.6 percent), with Barbados having the lowest (3.4 percent). On average, Caribbean countries have higher social protection administrative costs as a percentage of contribution income and GDP than other countries such as the United States or Canada (IMF 2016).²⁰ This situation highlights the need to address significant inefficiencies in the management of pension programs.

Low compliance is another challenge for the management of social insurance programs in the Caribbean (IMF 2016). This problem is associated with high levels of informality, which not only reduces the potential amount of contributions to the system, but also restricts access to a pension when the worker does not meet the eligibility requirements. Among Caribbean countries, Barbados shows the highest ratio of contributors as a share of the labor force (78.99 percent), followed by Trinidad and Tobago (77.49 percent), The Bahamas (71.96 percent), Guyana (63.13 percent), Jamaica (53.72 percent), and Suriname (45.11 percent) (Table 8.8).

The distribution of contributors between men and women is somewhat uneven in Caribbean countries. Results suggest that there are more women contributors in Barbados and The Bahamas, while the opposite holds in the rest of Caribbean countries (Table 8.8). In general, at least half of the labor force contributes to social insurance programs and there is no significant disparity in the distribution of contributors by gender. Nonetheless, the relatively high levels of informality in Suriname, Jamaica, and Guyana remain an important challenge to address.

²⁰ In the United States, social protection administrative costs as a percentage of contribution income and GDP are 0.8 percent and zero, respectively; in Canada they are 3 percent and 0.1 percent, respectively.

Table 8.8. Contributors to Social Insurance Programs in Caribbean Countries

	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
Contributors (number of persons)	154,322	117,436	189,557	811,958	95,331	507,327
Men (percent of total contributors)	47.92	44.35	55.85	58.22	52.50	55.49
Women (percent of total contributors)	52.08	55.65	44.15	46.28	47.50	44.51
Contributors (percent of labor force)	71.96	78.99	63.13	53.72	45.11	77.49
<i>Memo</i>						
Labor force (number of persons)	214,443	148,674	300,261	1,394,536	211,311	654,729
<i>Year of data</i>						
Contributors and labor force	2017	2019	2016	2018	2017	2019–2020
Distribution of contributors	2014	2016	2017	2018	2017	2014

Sources: The labor force (15 to 64 years old) statistics for all countries come from the International Labour Organization's statistical database. The contributors for The Bahamas are from The Bahamas National Insurance Board (2017); for Barbados from Barbados National Insurance Office (2017); for Guyana from Guyana National Insurance Scheme (2018); for Jamaica from STATIN (2018); for Suriname from IDB (2017b); and for Trinidad and Tobago from ILO (2018). The distribution of contributors by gender for The Bahamas is from DSMF (2014); for Barbados from SSD (2016); for Guyana from IDB (2017a); for Jamaica from STATIN (2018); for Suriname from IDB (2017b); and for Trinidad and Tobago from CSO (2014).

High levels of informality also expose underlying problems in the provision of social protection to the most vulnerable. Workers switching from the formal to the informal sector several times during their working career reduce their contribution density to social insurance programs in the formal system, thus increasing their likelihood of not qualifying for an old-age pension (OECD 2019b). Caribbean countries with high levels of informality have a coverage rate in social insurance pension programs in the range of 50 percent of the eligible population (Suriname, 44.9 percent; Guyana, 46.8 percent; and Jamaica, 54.9 percent). In general, for most Caribbean countries, more than half of the contributors end up being covered by social insurance when they retire. In The Bahamas, 95 percent of the eligible population receives a social insurance pension (Table 8.9).

When social insurance is low, social assistance benefits tend to be more extended among the elderly. For instance, in Guyana and Suriname, where around half of total employment takes place in the informal sector (ILO 2017; IMF 2014), social assistance is provided to about 89.9 and 86.4 percent of their eligible populations, respectively. In this regard, Jamaica seems to be

Table 8.9. Coverage of the Pension Systems in Caribbean Countries

	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
Social Assistance						
Beneficiaries	1,584	1,178	49,960	53,517	57,893	92,337
Eligible population	26,948	46,584	55,546	372,127	67,025	143,450
Beneficiaries/ Eligible population (percent)	5.9	2.5	89.9	14.4	86.4	64.4
Social Insurance						
Beneficiaries	25,599	29,476	33,164	141,609	18,404	129,393
Eligible population	26,948	46,584	70,863	258,170	40,993	228,404
Beneficiaries/ Eligible population (percent)	95.0	63.3	46.8	54.9	44.9	56.7
<i>Year of data</i>						
Social assistance	2017	2019	2017	2018	2017	2017
Social insurance	2017	2019	2016	2018	2017	2019

Sources: The number of beneficiaries of social assistance for The Bahamas is from The Bahamas National Insurance Board (2017); Barbados from Barbados National Insurance Office (2017); Guyana from IDB (2017a); Jamaica from STATIN (2018); Suriname from IDB (2017b); and Trinidad and Tobago from ILO (2018). The number of beneficiaries of social insurance for The Bahamas is from The Bahamas National Insurance Board (2017); Barbados from Barbados National Insurance Office (2017); Guyana from Guyana National Insurance Scheme (2018); Jamaica from STATIN (2018); Suriname from IDB (2017b); and Trinidad and Tobago from ILO (2018). The eligible population for The Bahamas, Barbados, Guyana (social insurance only), and Trinidad and Tobago comes from United Nations (2019). For Suriname and Guyana (social assistance only), we use the same sources as for the number of beneficiaries. In the case of Jamaica, we use the coverage rates from the survey and apply them to the eligible population from United Nations (2019).

Note: The eligible population is the number of people older than the statutory retirement age by type of program (see Table 8.3).

an exception. Despite having an informal sector that accounts for between 35 and 45 percent of the economy (Peters 2017), the coverage of social assistance is only about 14.4 percent of the eligible population (Table 8.9).

Table 8.10 shows the estimated pension system expenses of Caribbean countries. Pension system expenses are defined as the sum of the disbursed pensions and administrative costs associated with old-age, disability, and survivors programs.²¹ The pension expenditure in social insurance

²¹ In this exercise, revenues from the contributions to the pension systems are not estimated.

programs is estimated by multiplying the number of beneficiaries summarized in Table 8.9 times the average social insurance benefits (Table 8.5). Likewise, the pension expenses of social assistance programs are estimated by multiplying the number of beneficiaries from Table 8.9 times the social assistance benefits defined by law (Table 8.6). An estimate is provided of the pension expenditure and a range in which these expenses could fluctuate given the minimum and maximum benefit provided in some programs. The range was estimated by multiplying the number of beneficiaries times the minimum and maximum pension benefits for social insurance (Table 8.5) and pension benefits for social assistance (Table 8.6).²² These results are presented in brackets and denote the range in which the total pension expenses could be placed.

Table 8.10 also includes the pension expenses of programs that address the risks associated with disability and survivors. Among Caribbean countries, Barbados (0.85 percent of GDP) has the highest pension costs for disability and survivors, followed by Trinidad and Tobago (0.4 percent), The Bahamas (0.38 percent), Guyana (0.37 percent), and Suriname (0.02 percent)

Overall, Jamaica and The Bahamas have the lowest pension system expenses among the Caribbean countries (1.98 and 3.21 percent of GDP, respectively). In Suriname, Guyana, and Trinidad and Tobago, total expenses vary between 3.9 and 6 percent of GDP. Barbados has the highest level of pension expenses, with a point estimate of 8.86 percent of GDP, and a range from 7.5 to 13.2 percent of GDP. The disbursement of pension expenses for civil servants as a share of total pension expenses ranges from 13.1 percent in Jamaica to 33.2 percent in Barbados (Table 8.10). Given the relative importance of civil servant programs, Box 8.1 presents a brief analysis of their main characteristics in Caribbean countries.

As mentioned earlier in this chapter, PAYGO systems tend to encounter financial sustainability problems in the long run due mostly to population aging. According to IMF (2016), as contribution incomes exceeded benefit payments and administrative expenses, some PAYGO systems in the Caribbean countries were able to accumulate a sizable pension fund. Nonetheless, projections starting from 2017 indicate substantial deficits and an eventual depletion of assets over a 13-year period (IMF 2016). If this scenario materializes without Caribbean countries undertaking any major reform of their pension schemes, governments will find themselves

²² Trinidad and Tobago is the only Caribbean country that has minimum and maximum social assistance benefits.

Table 8.10. Public Pension Expenditure by Program in Caribbean Countries (percent of GDP)

	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
Social assistance						
Range (minimum–maximum) ^a	—	—	—	—	—	[0.37–2.57]
Estimated expenditure ^b	0.04	0.12	1.64	0.09	1.59	2.26
Social insurance						
Range (minimum–maximum) ^a	[0.69–...]	[3.25–8.94]	—	[1.50–...]	[0.29–4.81]	[3.07–4.17]
Estimated expenditure ^b	1.36	4.64	2.07	1.52	1.26	3.15
Civil servants	1.03	2.94	1.06	0.26	1.03	n.a.
Disability and survivors	0.38	0.85	0.37	n.a.	0.02	0.40
Administrative expenses	0.40	0.32	0.30	0.10	n.a.	0.16
Total						
Range (minimum–maximum) ^a	[2.54–...]	[7.47–13.16]	—	[1.96–...]	[2.92–7.44]	[3.99–7.29]
Estimated expenditure ^b	3.21	8.86	5.44	1.98	3.89	5.96
Year of data						
Social assistance (beneficiaries)	2017	2019	2016	2018	2017	2017
Social insurance (beneficiaries)	2017	2019	2016	2018	2017	2019
Social assistance (benefit)	2017	2019	2017	2018	2017	2017

(continued on next page)

Table 8.10. Public Pension Expenditure by Program in Caribbean Countries (percent of GDP) (continued)

	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
Social insurance (benefit)	2017	2019	2016	2018	2017	2019
Civil servants	2019/2020	2019/2020	2017	2013	2017	—
Disability and survivors	2017	2019	2016	—	2017	2019
Administrative expenses	2017	2019	2016	2016	—	2019

Sources:

Social assistance (beneficiaries): The Bahamas: The Bahamas National Insurance Board (2017); Barbados: Barbados National Insurance Office (2017); Guyana: IDB (2017a); Jamaica: STATIN (2018); Suriname: IDB (2017b); Trinidad and Tobago: ILO (2018).

Social insurance (beneficiaries): The Bahamas: The Bahamas National Insurance Board (2017); Barbados: Barbados National Insurance Office (2017); Guyana: National Insurance Scheme (2018); Jamaica: STATIN (2018); Suriname: IDB (2017b); Trinidad and Tobago: ILO (2018).

Social assistance (benefit): The Bahamas, Barbados, Guyana, Jamaica, and Suriname: SSA (2020); Trinidad and Tobago: ILO (2018).

Social insurance (benefit): The Bahamas: The Bahamas National Insurance Board (2017); Barbados: Barbados Treasury Department (n.d.); Guyana: National Insurance Scheme (2018); Jamaica: STATIN (2018); Suriname: IDB (2017b); Trinidad and Tobago: ILO (2018).

Civil servants: The Bahamas: The Bahamas Ministry of Finance (2020); Barbados: Barbados National Insurance Office (2017); Guyana: IDB (2017a); Jamaica: IDB (n.d.); Suriname: IDB (2017b); Trinidad and Tobago: ILO (2018).

Disability and survivors: The Bahamas: The Bahamas National Insurance Board (2017); Barbados: Barbados Treasury Department (n.d.); Guyana: National Insurance Scheme (2018); Suriname: IDB (2017b); Trinidad and Tobago: ILO (2018).

Administrative expenses: The Bahamas: The Bahamas National Insurance Board (2017); Barbados: Barbados Treasury Department (n.d.); Guyana: National Insurance Scheme (2018); Guyana: IMF (2016); Jamaica: IMF (2016); Trinidad and Tobago: ILO (2018).

Note: Does not include old-age pension grants. Data in brackets denote the range in which the total pension expenses could be placed. n.a.: not available.

^a The numbers in brackets hypothetically represent the minimum and maximum pension expenses. These values were estimated using the range of potential benefits of each program.

^b Estimated using the total expenditure for each pension program and the number of beneficiaries.

BOX 8.1. CIVIL SERVANT PENSIONS

Half of the world's countries have separate pension schemes for civil servants (Palacios and Whitehouse 2006). In Caribbean countries, these programs tend to be more generous (in terms of their replacement rates) than those provided to the general public (Table 8.1.1). Replacement rates for civil servants compare favorably to the replacement rates presented in Table 8.5 for the general public—for example, 76.2 percent versus 28.5 percent in The Bahamas, 85.5 percent versus 77.9 percent in Barbados, and 70.3 percent versus 41.1 percent in Guyana. Suriname has a replacement rate for civil servants (72.3 percent) similar to that of the rest of the population (72.1 percent).

The age of retirement in civil servant programs is the same as that for social insurance pension programs for the general public, except in Guyana, where it is five years earlier (55 versus 60 years old).

Table 8.1.1. Characteristics of Civil Servant Pension Programs

	The Bahamas	Barbados	Guyana ^b	Jamaica	Suriname
Statutory pensionable age	65	67 ^c	55	65	60
Number of beneficiaries	7,866 ^d	17,000 ^d	10,272	27,214	14,958
Benefit (percent of average salary) ^a	76.2	85.5	70.3	n.a.	72.3
Total expenditure (percent of GDP)	1.03	2.94	1.06	0.26	1.03
Year of data (expenditure)	2019/2020	2019/2020	2017	2013	2017

Sources: The Bahamas: the number of contributors from Pessino (2013) and total expenditure from The Bahamas Ministry of Finance (2020); Barbados: the number of contributors from Eckler (2014) and total expenditure from the Barbados Treasury Department (n.d.); Guyana: IDB (2017a) and SSA (2020); Jamaica: IDB (n.d.); Suriname: IDB (2017b); and calculations by the authors.

Note: Non-contributory programs: The Bahamas. Contributory programs: Guyana, Jamaica, and Suriname. Barbados has non-contributory and contributory pension programs for civil servants. There is no available information for Trinidad and Tobago or for the replacement rate in Jamaica. n.a.: not available.

^a The average salary of employed workers in the formal sector between age 15 and the statutory age of retirement for each country is used.

^b According to SSA (2020), the legal monthly minimum wage for public sector workers is G\$64,200. Due to lack of information, this minimum pension is used to estimate the total expenditure of the program as a share of GDP in Guyana.

^c As of January 1, 2018, the compulsory age of retirement was 67.

^d The number of beneficiaries in The Bahamas is for 2012 and for Barbados is for 2013 (includes pensioners from non-contributory and contributory civil servant programs).

In Guyana, Jamaica, and Suriname, civil servant pension programs require a contribution from the insured, but not in The Bahamas. Barbados is the only Caribbean country that offers a contributory and a non-contributory program for civil servants. In The Bahamas and Suriname, around one-fourth of the total population within the statutory pensionable age of retirement receives a civil servant pension. Overall, the total costs of these programs vary between 0.3 and 2.9 percent of GDP.

in the difficult position of deciding whether to finance pension benefits or allocating public resources to other priority expenditures such as health, education, or infrastructure. Consequently, periodic evaluations of the sustainability of pension schemes is a worthwhile exercise that policymakers need to undertake. Parametric amendments to key variables such as the retirement age, or to contribution rates, are advisable to maintain the financial sustainability of pension schemes.

This section now turns to exploring the potential trend of old-age program expenditure in Caribbean countries up to 2050. This exercise allows for measuring the magnitude of future spending obligations for old-age pensions. The forecasts presented are estimated through a stylized aggregate model from Izquierdo and Pessino (2018). Originally from the European Commission (2009) and IMF (2011), the model's departure point is an identity that breaks down public pension expenditure as a percentage of GDP (PE/GDP) into five ratios: an old-age dependency ratio (which measures the population aging); a coverage ratio (the number of pensioners as a share of the population over 65 years old); a replacement rate (the ratio of the average pension to the average salary); an inverse of the employment ratio (the ratio of the working-age population to the number of employed workers); and the compensation share to GDP (where compensation is defined as the multiplication of the average salary times the total number of workers):

$$\frac{PE}{GDP} = \underbrace{\frac{\text{population 65+}}{\text{population 15-64}}}_{\text{Old-Age Dependency Ratio}} * \underbrace{\frac{\text{pensioners}}{\text{population 65+}}}_{\text{Coverage Ratio}} * \underbrace{\frac{\text{average pension}}{\text{average wage}}}_{\text{Replacement Rate}} * \underbrace{\frac{\text{population 15-64}}{\text{workers}}}_{\text{Inverse of Employment Ratio}} * \underbrace{\frac{\text{compensation}}{GDP}}_{\text{Compensation Share}}$$

According to Izquierdo and Pessino (2018), for defined-benefit retirement schemes (the case of all Caribbean countries) the simplest scenario is that the PE/GDP only changes with the old-age dependency ratio and the employment rate. In other words, the model assumes that the coverage and replacement rates do not change over time. The initial PE/GDP for each country comes from the estimates in Table 8.10. Old-age dependency ratios were estimated from the demographic projections by United Nations (2019) and based on the statutory retirement age of each program. Therefore, if the legal retirement age of a program is 60, the old-age dependency ratio used for that program includes the population over 60 as the numerator and the population between 15 and 60 as the denominator

(see Table 8.3 for more information on the eligibility criteria of each program). It is important to mention that these forecasts are only proxies of those that would be obtained from an actuarial model with information on the income distribution of the insured and the contribution density of the different cohorts.

Table 8.11 shows the estimates of the PE/GDP for each Caribbean country from 2019 to 2050. Public pension expenditure is defined as the sum of the pension costs associated with social assistance, social insurance, and civil servant programs. These numbers are based on the costs of each pension program as a share of GDP that were summarized in Table 8.10 and the old-age dependency ratios estimated using the medium fertility forecast in United Nations (2019). In addition, Table 8.11 shows forecasts of the public pension expenses in the referred programs for 2050 under low, medium, and high fertility forecasts.²³ Table 8.11 only includes the forecasts for the low and high fertility variants for 2050 because there are no significant discrepancies with the medium variant prior to that year. There are, however, broader social and economic implications of low or high fertility rates. For example, in low-fertility scenarios, one would expect higher public pension expenditures because the old-age dependency rates would be higher. This means that a smaller group of the young population would have to support the PAYGO systems in the following decades (OECD 2019a). The opposite occurs with high fertility scenarios. Figure 8.3 shows estimates for public pension expenditures as a share of GDP in each Caribbean country from 2019 to 2050 by fertility variant.²⁴

In 2019, Trinidad and Tobago had the highest social assistance expenditure as a share of GDP (2.44 percent), followed by Guyana (1.77 percent), Suriname (1.66 percent), Barbados (0.12 percent), Jamaica (0.1 percent), and The Bahamas (0.04 percent). By 2050, Trinidad and Tobago is expected to have the highest social assistance expenditure among Caribbean countries (5.62 percent of GDP). The rest of the social assistance programs are expected to have expenditures below 5 percent of GDP by 2050: Guyana (3.96 percent), Suriname (3.21 percent), Barbados (0.24 percent), Jamaica (0.20 percent), and The Bahamas (0.11 percent) (Table 8.11).

Overall, the social assistance expenditure projections are lower than those for social insurance, except for Suriname. In 2019, Barbados registered

²³ It is important to mention that the projections under the fertility variants assume that the distribution of benefits at the base year remains constant.

²⁴ Low, medium, and high fertility rates are considered from 2019 onward. Differences in pension expenditures as a result of the different fertility rates tend to appear approximately around 2035.

Table 8.11. Public Pension Expenditure by Program in Caribbean Countries, 2019–2050 (percent of GDP)

		The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
Social Assistance							
Estimate ^a	2019	0.04	0.12	1.77	0.10	1.66	2.44
Medium fertility	2025	0.05	0.15	2.32	0.11	2.08	3.04
Medium fertility	2030	0.07	0.18	2.77	0.13	2.36	3.63
Medium fertility	2050	0.11	0.24	3.96	0.20	3.21	5.62
Low fertility	2050	0.11	0.26	4.23	0.22	3.42	5.99
High fertility	2050	0.10	0.23	3.72	0.19	3.02	5.30
Social Insurance							
Estimate ^a	2019	1.43	4.64	2.36	1.54	1.32	3.15
Medium fertility	2025	1.81	5.70	2.98	1.80	1.66	3.92
Medium fertility	2030	2.30	6.74	3.46	2.09	1.87	4.23
Medium fertility	2050	3.62	9.14	4.25	3.33	2.55	6.85
Low fertility	2050	3.85	9.76	4.56	3.57	2.72	7.37
High fertility	2050	3.41	8.59	3.98	3.13	2.40	6.40
Civil Servants							
Estimate ^a	2019	1.03	2.94	1.15	0.27	1.07	—
Medium fertility	2025	1.30	3.61	1.46	0.32	1.35	—
Medium fertility	2030	1.65	4.27	1.69	0.37	1.52	—
Medium fertility	2050	2.59	5.79	2.08	0.59	2.07	—
Low fertility	2050	2.76	6.18	2.23	0.63	2.21	—
High fertility	2050	2.45	5.44	1.95	0.55	1.95	—
Total Public Pension Expenditure							
Estimate ^a	2019	2.50	7.70	5.28	1.91	4.05	5.59
Medium fertility	2025	3.16	9.47	6.76	2.23	5.09	6.96
Medium fertility	2030	4.02	11.19	7.93	2.59	5.75	7.86
Medium fertility	2050	6.32	15.17	10.29	4.12	7.83	12.48
Low fertility	2050	6.72	16.20	11.02	4.42	8.36	13.36
High fertility	2050	5.96	14.26	9.65	3.87	7.37	11.70

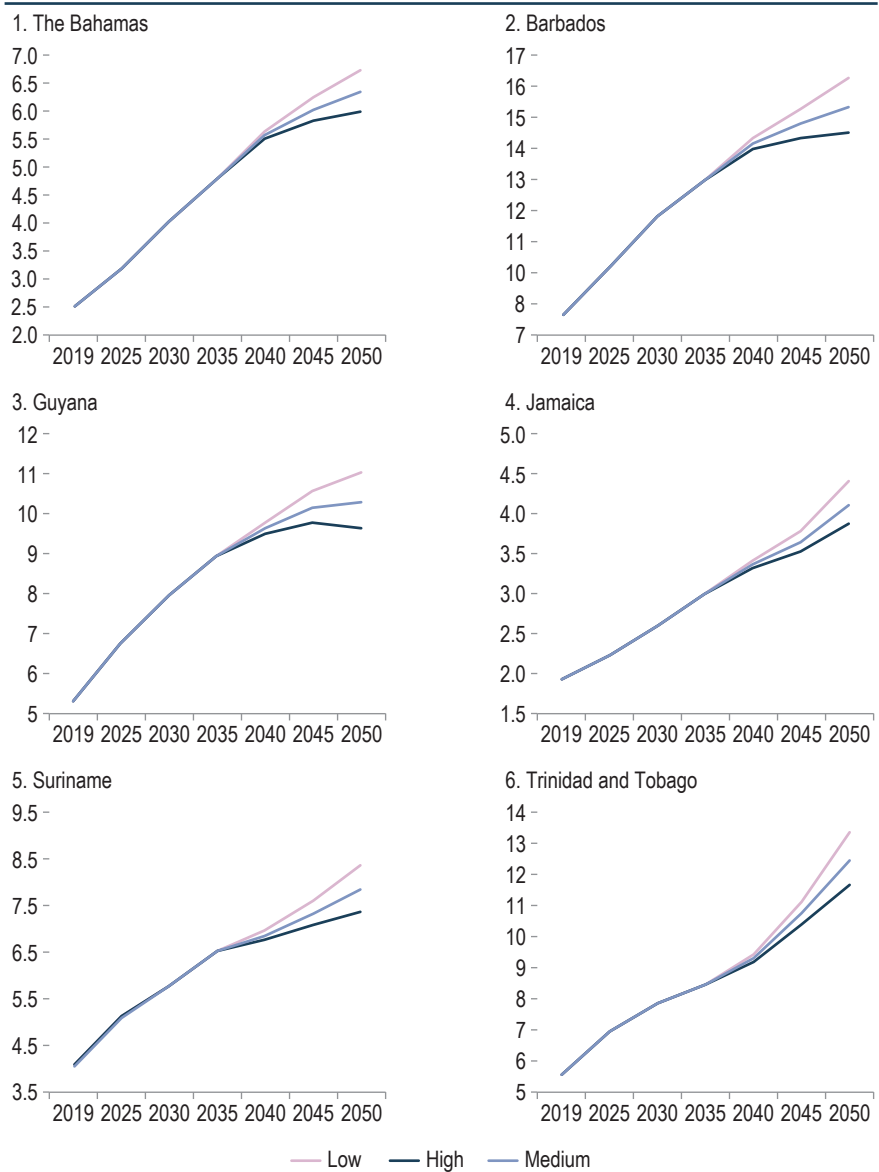
Sources: Based on the estimates in Table 8.10 and the demographic forecasts by fertility variant of United Nations (2019); and on calculations by the authors.

Note: Computations do not include administrative expenses and other contributory pensions, such as disability and survivors, because these are not directly related to old-age pensions.

^a Total expenditure for each pension program with respect to GDP.

the highest social insurance expenditure as a share of GDP among Caribbean countries (4.64 percent), followed by Trinidad and Tobago (3.15 percent), Guyana (2.36 percent), The Bahamas (1.43 percent), Suriname

Figure 8.3. Public Pension Expenditure by Fertility Variant, 2019–2050 (percent of GDP)



Sources: Table 8.11 in this chapter; United Nations (2019); and calculations by the authors.
Note: The three scenarios reflect fertility forecasts in United Nations (2019).

(1.32 percent), and Jamaica (1.54 percent). By 2050, the social insurance expenses of Barbados are expected to reach 9.14 percent of GDP. Trinidad and Tobago has the second highest social insurance expenditure forecast

for 2050 (6.85 percent of GDP). The rest of the Caribbean countries also show significant increases in social insurance expenses from 2019 to 2050 (Table 8.11).

The last component of the public pension expenditure projections included in Table 8.11 is for civil servant pensions. In 2019, these programs accounted for about a third of total pension spending among Caribbean countries. In 2019, Barbados had the highest pension expenditures for civil servants as a share of GDP (2.94 percent) among Caribbean countries, followed by Guyana (1.15 percent), Suriname (1.07 percent), The Bahamas (1.03 percent), and Jamaica (0.27 percent). In 2050, these programs are expected to significantly increase their pension disbursements, especially in Barbados, where disbursements are projected to reach 5.79 percent of GDP.

Table 8.11 also shows the estimated total public pension expenditure as a share of GDP from 2019 to 2050 for each Caribbean country (see also Figure 8.3). All Caribbean countries show substantial increases in public pension expenditures as a share of GDP in the coming decades. In 2019, Barbados had the highest public pension expenditure as a share of GDP among Caribbean countries at 7.7 percent, followed by Trinidad and Tobago (5.59 percent), Guyana (5.28 percent), Suriname (4.05 percent), The Bahamas (2.5 percent), and Jamaica (1.91 percent). For 2050, public pension expenditure as a share of GDP could reach 15.17 percent in Barbados, followed by Trinidad and Tobago (12.48 percent), Guyana (10.29 percent), Suriname (7.83 percent), The Bahamas (6.32 percent), and Jamaica (4.12 percent). This means that in the next 30 years, public pension expenditures as a share of GDP could increase in a range from 2.21 percentage points of GDP in Jamaica to 7.47 percentage points of GDP in Barbados.

Under a low fertility rate assumption, the public pension expenditure in Barbados could reach 16.2 percent of GDP in 2050, followed by Trinidad and Tobago (13.36 percent), Guyana (11.02 percent), Suriname (8.36 percent), The Bahamas (6.72 percent), and Jamaica (4.42 percent). Assuming a high fertility forecast, Barbados (14.26 percent) would still be the Caribbean country with the highest public pension expenditure in 2050, followed by Trinidad and Tobago (11.7 percent), Guyana (9.65 percent), Suriname (7.37 percent), The Bahamas (5.96 percent), and Jamaica (3.87 percent). On average, a low fertility rate scenario increases pension expenditures by 0.65 percentage points of GDP from the estimate that considers a medium fertility rate scenario, while a high fertility rate assumption reduces expenditures by 0.57 percentage points of GDP in the 2050 forecast from the estimate obtained when a medium fertility rate is assumed.

Table 8.12. Other Central Government Social Expenditure by Country, 2018–2050 (percent of GDP)

	The Bahamas	Barbados	Guyana	Jamaica	Trinidad and Tobago	Average
Other Social Expenditure ^a						
2018	4.75	13.22	6.30	9.20	11.91	9.08
2025	4.32	12.00	4.96	8.91	10.33	8.10
2030	3.81	10.93	4.03	8.60	9.43	7.36
2050	2.45	8.47	2.05	7.29	4.81	5.02
<i>Memo (2018)</i>						
Social expenditure of central government	6.18	17.85	10.26	10.82	17.29	12.48
Social assistance and social insurance	1.43	4.63	3.96	1.62	5.38	3.40

Sources: Estimates derived from Table 8.11; ECLAC (2019); and authors' calculations.

Note: The forecast assumes that social expenditure by the central government as a share of GDP does not change over time. Social protection numbers presented in panel 1 of Figure 8.2 are slightly different from the numbers shown in this table. Differences respond to the sources used to estimate the main components of social protection (social assistance and social insurance). Suriname is not included due to lack of information on central government social expenditure.

^a Other social expenditure aims to support the living conditions of poor or vulnerable groups. It includes expenditures related to environmental protection, recreation, culture and religion, housing and community amenities, health, and education.

The expected increases in public pension expenditures in the coming decades will undoubtedly diminish the financing available to Caribbean governments to address other pressing needs. Assuming that social expenditure in Caribbean countries remains constant as a percentage of GDP, the increasing pension expenses would result in significant declines—from 9.08 percentage points of GDP in 2018 to 5.02 percentage points in 2050 on average for the Caribbean countries—in the amounts remaining for other public spending components of social expenditure, including health and support for improved living conditions of the poor and other vulnerable groups, which could also face pressing needs because of an aging population.²⁵ Table 8.12 shows that the higher pension expenses could reduce other social expenditures as a share of GDP from 2018 to 2050 in a range that goes from 1.91 percentage points of GDP in Jamaica (from 9.2 to 7.29 percent of GDP) to 7.1 percentage points of GDP in Trinidad and Tobago (from 11.91 to 4.81 percent of GDP).

²⁵ Social expenditure aims to support the standard of living of vulnerable groups and includes programs related to social protection, education, health, housing and community amenities, recreation, culture and religion, and environmental protection.

As has been seen throughout this chapter, pension systems in Caribbean countries face important challenges in terms of providing adequate benefits and maintaining financial sustainability. The window of opportunity for reform is closing rapidly as pension costs will continue to rise and the “demographic dividend” that could potentially alleviate the burden of the economically dependent population on the workforce erodes over the next 20 years.

8.4. Conclusions

Recent decades have seen countries around the world undertaking pension reform to better confront demographic, financial, and public policy challenges. Issues such as population aging, increasing deficits in pension schemes, insufficient population coverage, high labor informality, and unsatisfactory benefits have prompted policymakers to seek more suitable alternatives for their pension schemes. Multi-pillar systems have thus emerged as possible solutions to successfully provide pension benefits for the elderly, as these systems can be adapted to address different segments of the population that face differing circumstances. The multi-pillar approach can be tailored to provide the elderly with a minimal level of protection (through a non-contributory zero pillar); replace a portion of lifetime pre-retirement income (through a mandatory contribution first pillar); establish a clear linkage between contributions, investment performance, and benefits (through a mandatory second pillar that entails a defined-contribution capitalization system); promote voluntary savings for retirement (through a voluntary third pillar); and facilitate access to informal support and other formal social programs (through a non-financial fourth pillar).

All Caribbean countries have multi-pillar systems that include zero, first, and third pillars. However, a multi-pillar system does not by itself guarantee that pensions will be provided to the elderly in a satisfactory manner. That is, the multi-pillar approach might still exclude a portion of the population from coverage, provide pension benefits that are still insufficient, or result in a system that is financially unviable. Well-designed multi-pillar systems allow for complementarities among the different pillars to address different segments of the population. Nonetheless, given each country’s specific circumstances, policymakers need to decide on the appropriate mix of pillars and on the proper parameters of the pension system to ensure that the stated objectives are achieved in their particular country.

This chapter has focused on the government-managed programs in Caribbean countries (zero and first pillars). A main conclusion of the analysis is that pension schemes in the Caribbean countries have ample room for

improvement. Policymakers in the region need to periodically review the design of their multi-pillar systems and assess what parametric and non-parametric changes are required to achieve adequate benefits, expanded coverage, and financial sustainability in their pension systems. In all these relevant variables, Caribbean countries lag significantly. Furthermore, demographic trends, high administrative costs for social protection programs, high levels of informality, and discrepancies between civil servant pensions and those of the rest of the population in the Caribbean point to unviable pension systems down the road.

This chapter has provided estimates of total public pension expenditures as a share of GDP for the Caribbean countries for the next three decades. All of the countries show sizable increases in public pension expenditures as a share of GDP in the coming years. These increases will significantly strain public finances and put at risk the ability of governments to address other pressing needs.

Caribbean countries are under increasing pressure to address the financial sustainability of their pension programs and the significant challenges in the adequacy of their benefits and population coverage. Pension reform needs to be placed at the top of the reform agenda. The window of opportunity for appropriate and comprehensive reform is closing, and these countries can no longer postpone adjustments to their pension schemes.

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SECTION II:

Institutions that Support Effective Monetary Policy and Sound Financial Systems

Improving Monetary Policy Institutions in the Caribbean

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Economists have for some time recognized that institutions play an important role in explaining differences in the wealth or poverty of nations (Acemoglu and Robinson 2012). Businesses are more likely to thrive if investors feel secure about their property rights, legal and macroeconomic risks are limited, bureaucratic hurdles are minimized, and access to functioning markets is secured. In contrast, investment by entrepreneurs is less attractive if they face high expropriation risks, recourse to the law is limited, corruption is severe, or bureaucratic demands are stifling (IMF 2003, Chapter 3). Some even argue that institutional differences are the fundamental driver of cross-country differences in economic development.²

Economic growth in The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago has been below growth levels in the Latin American countries for an extended period. These Caribbean countries also face high government debt-to-GDP ratios, making them vulnerable to shocks. Furthermore, living standards in terms of poverty are worse (except for Jamaica) than in other countries with similar levels of income per capita. According to Beuermann and Schwartz (2018), economic institutions that are extremely relevant for growth are largely absent in the Caribbean. Specifically, these include (1) institutions aimed at ensuring

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² In this view, the familiar growth determinants, such as physical and human capital accumulation rates and endogenous technical change, constitute the “proximate” determinants of growth, while the quality of institutions is the “fundamental” determinant. As discussed in de Haan (2019), other “fundamental” determinants, such as geography and culture, have also been suggested.

fiscal responsibility beyond the political cycle such as fiscal rules, medium-term fiscal frameworks, fiscal councils, sovereign wealth funds, and public financial management; (2) monetary institutions such as independent and transparent central banks; (3) institutions that facilitate productive investment by the private sector; and (4) institutions aimed at financial sector development that reduce asymmetric information in financial and credit markets, and promote financial inclusion and access.

This chapter zooms in on two key features of monetary institutions, namely central bank independence and transparency.³ Central bank independence, broadly defined, is the extent to which a central bank can decide on using its instruments in a way it deems optimal in view of accomplishing its mandate, without external (political and other) interference (de Haan et al. 2018). Central bank transparency can be defined as the extent to which central banks disclose information that is related to the monetary policy-making process (Eijffinger and Geraats 2006).

Since the 1980s, the level of central bank independence has increased almost everywhere across the world (de Haan et al. 2018). This trend has been based on the belief, still widespread among central bankers, that central bank independence leads to superior macroeconomic outcomes. As former U.S. Federal Reserve Chairwoman Janet Yellen put it: “The ability of the central bank to make the decisions about monetary policy that it regards as in the best longer run interests of the economy free of short run political interference is very important” because “history shows, not only in the United States but around the world, that central bank independence promotes better economic performance.”⁴ Indeed, there is much evidence suggesting that greater central bank independence favors more effective control of inflation rates independent of the monetary policy strategy adopted (see the meta-regression analysis of Klomp and de Haan [2010] and Garriga and Rodríguez [2020]). This virtuous relation, however, has been found to be robust only when central bank independence is highly institutionalized making it non-contingent on the political cycle (Moser 1999; Keefer and Stasavage 2003; Acemoglu et al. 2008). Therefore, political commitment over the long term becomes a key component.

³ A recent World Bank report stresses the importance of these institutions: “A recurring theme is the benefits of stability-oriented and resilient monetary policy frameworks, including central bank transparency and independence. Such policy frameworks need to be complemented by strong macroeconomic and institutional arrangements” (Ha, Kose, and Ohnsorge 2019, i5).

⁴ See Peter Schroeder, “Yellen: I would ‘forcefully’ oppose Audit the Fed efforts,” *The Hill*, December 17, 2014. Available at: <http://thehill.com/policy/finance/227474-yellen-i-would-forcefully-oppose-audit-the-fed-efforts>.

As with central bank independence, central bank transparency has also increased worldwide. Prior to the 1990s, central banks were shrouded in mystery—and believed they should be. Conventional wisdom among central bankers at the time was that monetary policymakers should say as little as possible, and say it cryptically. However, as pointed out by Woodford (2001, 307, 312) at the 2001 Jackson Hole Conference, “successful monetary policy is not so much a matter of effective control of overnight interest rates...as of affecting...the evolution of market *expectations*.... [Therefore,] transparency is valuable for the effective conduct of monetary policy....[T]his view has become increasingly widespread among central bankers over the past decade.”

As it became increasingly clear that managing expectations is a useful part of monetary policy, communications policy became a key instrument in the central banker’s toolkit. There is evidence that this instrument can be very effective (Blinder et al. 2008). A recent study by the World Bank reports that the presence of an inflation-targeting regime and a rise in central bank transparency are associated with better anchoring of long-term inflation expectations (Ha, Kose, and Ohnsorge 2019).

Central bank transparency is also considered a crucial element of central bank accountability. In a principal-agent approach, the essence of accountability is that once a principal (such as the legislature or the population in general) delegates a particular task to an agent (the central bank, for example) and gives the agent instruments to perform this task, the agent must be held accountable for achieving the objective. This means that the principal must form an opinion of the agent’s performance. In other words, a central bank should be required to regularly report on its past performance and future plans, not only to the legislature but also to the general public. There are various ways to do this, ranging from reports to minutes, testimony to legislatures, transparent financial reporting as per a widely recognized standard (IFRS), and other communication devices (see Blinder et al. [2008] for an extensive discussion). In other words, transparency requires that the central bank make all the reports, information, and data that it uses to conduct its analyses and inform its policies publicly available, not only to financial market participants but also to the public at large.

The first section of this chapter provides a conceptual framework, explaining why central bank independence and transparency may lead to better communications and improved understanding of the message, and hence better monetary policy outcomes. The key argument in economists’ reasoning as to why central bank independence may lead to lower inflation is that an independent central bank is considered a commitment device to deal with the time-inconsistency problem that arises due to the short-term

benefits of surprise inflation. A fixed exchange rate regime may be considered an alternative commitment device. The conditions under which such an alternative may work are outlined in this first section of the chapter.

Section 9.2 analyzes trends in central bank independence in the world, Latin America, and the Caribbean. In measuring that independence, updates from the Cukierman, Webb, and Neyapti (1992) index provided by Bodea and Hicks (2015) and Garriga (2016) are used. This index is based on four characteristics of the central bank's charter. First, a central bank is viewed as more independent if the governor is appointed by the central bank board rather than by the government, is not subject to dismissal, and has a long term of office. Second, the level of independence is higher the greater the extent to which policy decisions are made without government involvement. Third, a central bank is more independent if its charter states that price stability is the sole or primary goal of monetary policy. Fourth, independence is greater if there are limitations on the government's ability to borrow from the central bank.

Section 9.3 zooms in on central bank transparency. In measuring central bank transparency, updates of the index of Eijffinger and Geraats (2006) provided by Dincer and Eichengreen (2014) and Dincer, Eichengreen, and Geraats (2019) are used. This index captures five dimensions of central bank transparency: political transparency (i.e., openness about policy objectives), economic transparency (i.e., openness about the economic information that is used for monetary policy), procedural transparency (i.e., openness about the way monetary policy decisions are taken), policy transparency (i.e., openness about policy decisions), and operational transparency (i.e., openness about the central bank's policy actions). Section 9.4 discusses options to improve monetary institutions in Caribbean countries, and the final section then presents the conclusions of the chapter.

9.1. Conceptual Framework

Economists consider delegating monetary policy to an independent central bank that has a clear mandate to strive for price stability to be a commitment device. With an independent and inflation-averse central bank in charge of monetary policy, the inflation bias due to the time-inconsistency problem is lower than when the government is in charge of monetary policy. The time-inconsistency problem arises due to the short-term benefits of surprise inflation, such as lowering unemployment and the real value of government debt (Rogoff 1985). The government may be tempted to reap the short-term benefits of surprise inflation even if the long-term costs of such a policy may be high. In the words of former U.S. Federal Reserve Chair Ben

Bernanke (2010), “a central bank subject to short-term political influences would likely not be credible when it promised low inflation, as the public would recognize the risk that monetary policymakers could be pressured to pursue short-run expansionary policies that would be inconsistent with long-run price stability. When the central bank is not credible, the public will expect high inflation and, accordingly, demand more-rapid increases in nominal wages and in prices. Thus, lack of independence of the central bank can lead to higher inflation and inflation expectations in the longer run, with no offsetting benefits in terms of greater output or employment.”⁵

The time-inconsistency problem of monetary policy can only be reduced if monetary authority is delegated to an independent *and* “conservative” central bank (Rogoff 1985; Berger, de Haan, and Eijffinger 2001). “Independent” means that government influence on monetary policymaking is limited. “Conservative” means that the central bank is more inflation-averse than the government (so it does not refer to being conservative in a political sense). If the central bank had the same preferences as the government, it would follow the same policies as the government and independence would not matter. Likewise, if the central bank were fully under the spell of the government, its inflation aversion would not matter. Only if the central bank is more inflation-averse than the government, and can decide on monetary policy without political interference, can it credibly promise to keep inflation low.⁶

The empirical prediction that follows from this theory—namely, that countries with an independent and conservative central bank will have lower inflation than those where monetary policy is controlled by the government—has been tested extensively.⁷ In their meta regression analysis

⁵ However, as even the most independent central bank does not operate in a political vacuum, there may be political pressure on the central bank—including the ultimate threat to remove the central bank’s independence—particularly if politicians disagree with the central bank’s policies (see Ehrmann and Fratzscher [2011] and the references cited therein).

⁶ Empirically, the theoretical concept of “conservativeness” may refer to the price stability mandate of the central bank, and/or to the fact that central bankers, due to their background and/or socialization processes, dislike inflation (see de Haan and Eijffinger [2019] for a discussion).

⁷ de Haan and Eijffinger (2019) provide a review of other reasons put forward in the literature, notably by political scientists, as to why central bank independence may be beneficial. In their seminal paper, Alesina and Tabellini (2008) address the issue of whether society might benefit from delegating certain tasks to bureaucrats and taking them away from the direct control of politicians. The two types of policymakers have different incentives. Politicians aim to be reelected, and therefore need to provide enough utility to a majority of the voters. Bureaucrats instead have career concerns, and they want to appear as competent as possible, looking ahead toward

of these empirical studies, Klomp and de Haan (2010, 612) conclude that their evidence “corroborates the conventional view by finding a significant ‘true effect’ of central bank independence on inflation, once we control for a significant publication bias.”

Giordano and Tommasino (2011) highlight another benefit of delegating monetary policy to an independent central bank: a country’s increased debt sustainability. They show that countries with more independent central banks are less likely to default on their debt. Other studies also report evidence that central bank independence may constrain fiscal policy. Bodea and Higashijima (2017) find that central bank independence in democracies has a deterrent effect on fiscal overspending, mediated by partisanship and the electoral cycle. Likewise, Bodea (2013) reports that for a sample of 23 democratic and undemocratic post-communist countries, independent central banks restrain budget deficits (but only in democracies).

Another way of enhancing credibility is to import the monetary policy of an independent and conservative (i.e., inflation-averse) foreign central bank by fixing the exchange rate. As Bodea (2018, 4–5) puts it: “The two monetary institutions are argued to achieve the same goal of low inflation, although in different ways. Allowing the central bank to carry out monetary policy without political interference should work because central bankers, generally, come from business, financial or academic circles, tend to take a longer view of the policy process and are, on average, more conservative about price stability than elected politicians or the median voter. Fixed exchange rates, on the other hand, work by tying domestic economic policy to that of a less inflation-prone country, thus ‘importing’ the lower foreign inflation.” Of course, this only fully works if the exchange rate is credibly fixed, like under a currency board or a truly fixed exchange rate regime.⁸

Although central bank independence and fixed exchange rates might be alternative ways to achieve monetary credibility in the short run (Box 9.1), once a fixed exchange rate regime has been adopted, an independent central bank might be instrumental in making the currency

future employment opportunities. Given these different incentive structures, Alesina and Tabellini show that it is optimal for society to delegate certain types of activities to nonelected bureaucrats with career concerns, while other activities are better left in the hands of elected politicians. Delegating to bureaucrats is especially beneficial for tasks for which there is imperfect monitoring of effort, tasks that are rather technical, tasks that involve a time-inconsistency problem, and tasks that have limited distributional consequences.

⁸ Another way is by becoming a dollarized or euroized economy, meaning, on the one hand, that the country fully adopts the currency and monetary policy of a foreign central bank and, on the other, that the national central bank will not issue local currency.

BOX 9.1. AN INDEPENDENT CENTRAL BANK OR FIXED EXCHANGE RATES?^a

High inflation and high pass-through from exchange rate movements to prices are an important reason for small open economies to consider introducing a credible exchange rate peg. However, before a country decides in favor of such a regime, a proper comparison should be made with the alternative of an independent and inflation-averse central bank under a flexible exchange rate regime. Both alternatives have advantages and disadvantages, and it is not always obvious what the optimum solution would be. In general, three key considerations affect this choice (de Haan, Berger, and van Fraassen 2001).

First, *ceteris paribus*, a fixed exchange rate regime becomes more attractive when the home country's central bank is relatively less independent and output-oriented compared to the foreign central bank. The reason is that a lower level of domestic central bank independence will increase the inflationary bias. Pegging to a currency of a foreign country with a conservative central bank will increase welfare as the lower inflation gain will outweigh the loss in output stabilization implied by the fixed exchange rate. (The foreign central bank will not take the home situation into account in setting policy rates, so output stabilization in the home country is suboptimal).

Second, a fixed exchange rate regime is more attractive if the imported foreign monetary policy is in the hands of an independent and conservative foreign central bank. The argument is that a more conservative foreign monetary authority will lower the inflationary bias under fixed exchange rates.

Third, the higher the correlation between the output shocks of the home and foreign country, the more attractive is a fixed exchange rate regime. Behind this is the simple fact that a higher correlation will ensure that foreign monetary policy is more in line with the needs of the domestic economy.

Apart from these considerations, several other advantages of fixed exchange rate regimes are mentioned in the literature that may be considered in deciding in favor or against a fixed exchange rate regime (see Pereira [2018] for a more extensive discussion focusing on the exchange rate regime choice of Caribbean countries). First, fixed exchange rates reduce foreign currency risks in international trade and investment transactions. Second, fixed exchange rates can reduce the currency risk component in domestic interest rates.

However, a fixed exchange rate regime also has drawbacks. First, depending on the arrangement, the currency of the pegging country is susceptible to speculative attacks. Second, in emerging market countries an exchange rate peg can promote financial fragility and financial crisis because their debt is often denominated in foreign currencies while financial assets are in domestic currency. Moreover, absent capital controls, an exchange rate peg may encourage capital inflows, leading to a lending boom (Ghosh et al. 2014).

Furthermore, it is important to point out that although it is often argued that under a system of flexible exchange rates countries have autonomous monetary policy, Rey (2015) argues that even countries with flexible exchange rates do not

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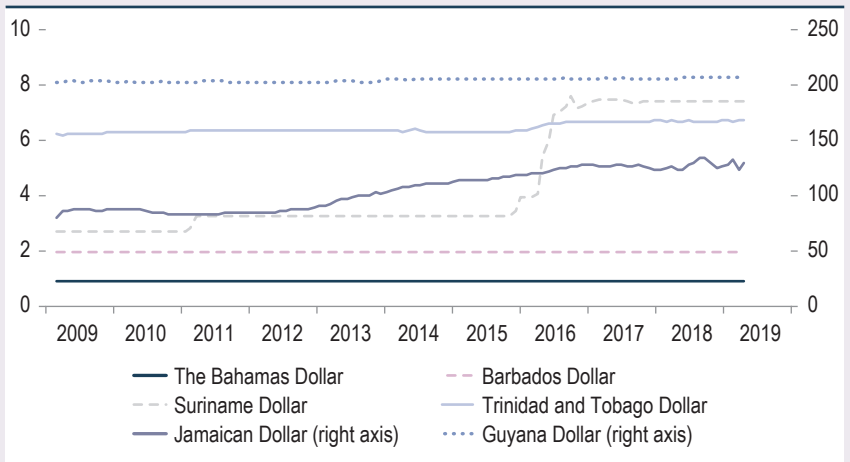
BOX 9.1. AN INDEPENDENT CENTRAL BANK OR FIXED EXCHANGE RATES?^a

have independent monetary policy in the international environment of free capital mobility, since cross-border flows and leverage of global institutions transmit monetary conditions globally even under floating exchange rate regimes. In addition, according to Worrell (2000), small and open economies with flexible exchange rates are susceptible to contagion and exchange rate instability because their financial markets are, in general, not highly developed, while their exchange markets are very small (see also Pereira [2018]). Relatively few transactions can cause high exchange rate volatility, negatively affecting the central bank’s credibility.

Flexible exchange rates may also not have the stabilizing properties as often assumed. If trade is invoiced in foreign currency, as is usually the case for the small and open economies of the Caribbean, changes in the exchange rate may induce large swings in the trade balance and in inflation. Because these economies have little room for import substitution as a result of their limited domestic production, their imports are impacted significantly by a depreciation, as they still need to import these goods and imported inflation goes up. As the demand for their exports (e.g., in tourism) is often inelastic, a depreciation will not result in an increase in their exports. In addition, as tradable goods are used as inputs in the domestic production of non-tradable goods, this will also trigger inflation (Imam 2010).

As shown in Figure 9.1.1, several Caribbean countries have a fixed exchange rate vis-à-vis the U.S. dollar. Notably, The Bahamas and Barbados have pegged

Figure 9.1.1. Exchange Rates of Caribbean Countries vis-à-vis the U.S. Dollar, 2009–2019

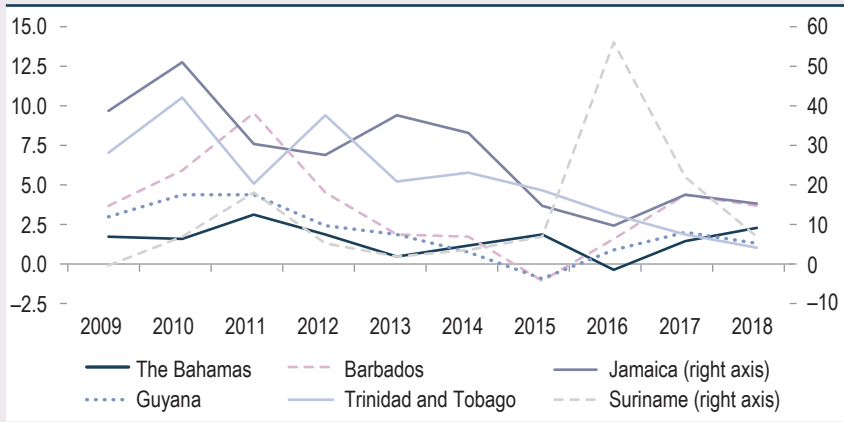


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BOX 9.1. AN INDEPENDENT CENTRAL BANK OR FIXED EXCHANGE RATES?^a

their currency very firmly to the U.S. dollar. Between 2009 and 2019, average Consumer Price Index inflation in these two countries amounted to 1.8 and 3.8 percent, respectively, which is below the average inflation of the other Caribbean countries (except for Guyana, which had average inflation of 2.6 percent) (Figure 9.1.2).

Figure 9.1.2. Inflation in the Caribbean Countries, 2008–2019 (percent)

^a This box is based on de Haan, Berger, and van Fraassen (2001) and Pereira (2018).

commitments politically sustainable over the long run (Fernández-Albertos 2015). In addition, according to Ha, Kose, and Ohnsorge (2019), greater central bank independence is associated with significantly lower exchange rate pass-through, highlighting self-reinforcing feedback between central bank credibility and price stability. Therefore, although several Caribbean countries have adopted fixed exchange rate regimes (see Box 9.1), central bank independence continues to be a relevant characteristic to enhance credibility and effectiveness.

As pointed out earlier, it is widely believed that central bank independence should come with central bank disclosure or transparency, which can be defined as the extent to which central banks disclose information that is related to the policymaking process (Eijffinger and Geraats 2006). Others use the term central bank “communication.” Blinder et al. (2008) define central bank communication as the provision of information by the central bank to the general public on the objectives of monetary policy, the monetary policy strategy, the economic outlook, and the outlook for future policy decisions.

Central bank transparency is not only warranted as a crucial part of the accountability of the central bank. It has also been argued that it may enhance policy effectiveness. Dincer and Eichengreen (2014) suggest that central bank transparency is a means to enhance the credibility of the central bank's commitments. A commitment to maintain low and stable inflation will be more convincing when the central bank explains in detail how and why its policies are supposed to deliver on this objective. In turn, a more credible commitment gives the central bank more leeway to deviate from normal policies when atypical conditions arise, since it would be clear to the public that this deviation would be temporary and not inconsistent with the longer-term objective of monetary policy. In other words, transparency not only enhances policy credibility but also policy flexibility. As stated by the International Monetary Fund (IMF 2015, 9), "Effective communication helps reduce uncertainty, improves monetary policy transmission, and facilitates accountability, thereby building credibility. Clear communication can also help anchor inflation expectations when 'words' are confirmed by actions and outcomes ('say what you do and do what you say')."

The current emphasis on central bank transparency and communication is based on the insight that monetary policy to a very large extent is the "management of expectations" (Svensson 2006). Transparency about policy is a way to manage expectations.⁹ Even though central banks only have control over short-term interest rates, they can use communication to influence expectations about future short-term interest rates, thereby affecting long-term interest rates. Long-term interest rates, reflecting expected future short-term interest rates, affect saving and investment decisions by households and firms. Therefore, the public's perception of future policy rates is critical for the effectiveness of monetary policy (Blinder et al. 2008).

In addition, central bank communication may affect inflation expectations, which are important because they will affect actual inflation. Very simply, if economic agents expect an inflation rate of, say, 2 percent and behave accordingly, actual inflation will move toward this rate. The anchoring of inflation expectations is also important because it prevents a fall in nominal short-term interest rates from being associated with a medium-term weakening of the economic situation and thus a decline in inflation expectations. For these reasons, central banks aim to "anchor" inflation expectations. This means that inflation expectations are in line with the central bank's inflation objective, which reflects the central bank's high credibility. In this way, the consequences of a shock are mitigated by a firm

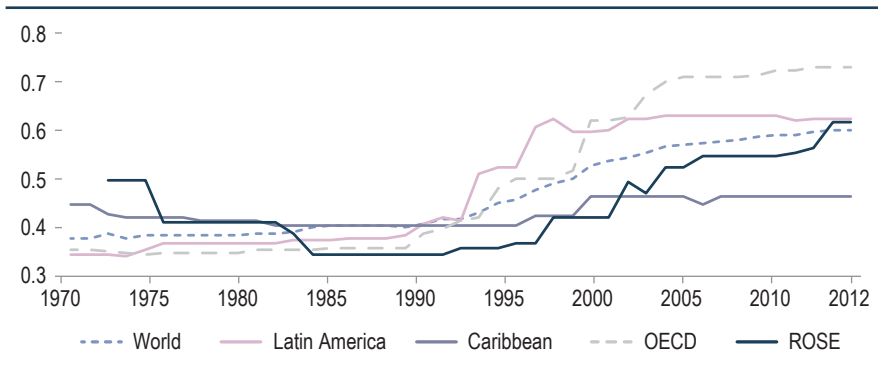
⁹ This paragraph draws heavily on de Haan and Sturm (2019).

anchorage of expectations, and the economy returns faster to its long-run path than otherwise would be the case. Moreover, if the short-term interest rate approaches its effective lower bound, implying that there is less and less room for further policy rate reductions, the development of inflation expectations will become more and more crucial in determining the real interest rate.

9.2. Trends in Central Bank Independence

Figure 9.1 shows how central bank independence has evolved by drawing on updates of the legal independence indicator proposed by Cukierman, Webb, and Neyapti (1992) as provided by Garriga (2016). Annex Table 9.1 explains this index in some detail. The index is based on four characteristics of the central bank's charter. First, a bank is viewed as more independent if the governor is appointed by the central bank board rather than by the government, is not subject to dismissal, and has a long term of office. The less influence the government has in appointment procedures (for instance, due to double veto appointment procedures and long tenure), the lower the chance that the governor will follow the short-run policy preferences of the government instead of focusing on the legal mandate of the central bank. Second, the level of independence is higher the greater the extent to which policy decisions are made without government involvement. Obviously, if the government has a say in monetary policy formulation, the central bank cannot implement policies it deems

Figure 9.1. Central Bank Independence in the World and Various Country Groups



Source: Data provided by Garriga (2016).

Note: The index ranges between 0 (lowest level of central bank independence) and 1 (highest level of central bank independence). See Annex Table 9.1 for details. OECD: Organisation for Economic Co-operation and Development; ROSE: rest of the small economies of the world, including Bhutan, Botswana, Cyprus, Gabon, Lesotho, Macedonia, Mauritius, Mongolia, Montenegro, Seychelles, and Timor-Leste.

consistent with its legal mandate. Third, under the index, a central bank is more independent if its charter states that price stability is the sole or primary goal of monetary policy. This dimension reflects the importance of having a “conservative” central banker, as discussed above. Finally, independence is greater if there are limitations on the government’s ability to borrow from the central bank. This last point is important. If the central bank can be forced to finance government budget deficits, this will seriously undermine its ability to focus on its primary objective, be it price stability or an exchange rate peg. The score for each of these characteristics of the index (as well as their underlying subitems) ranges between 0 (lowest level of central bank independence) and 1 (highest level of central bank independence). The total central bank independence score is a weighted average of the subitems (see Annex Table 9.1 for details).

The index of Cukierman, Webb, and Neyapti (1992) is a good proxy for central bank independence for several reasons, one of them being that this measure takes into account the conservativeness of the central bank as embedded in the law (i.e., the more priority the central bank law gives to price stability, the higher the score of the index).¹⁰ As pointed out earlier in this chapter, the combination of (instrument) independence and conservativeness of the central bank is crucial to reduce the inflationary bias of monetary policy due to the time-inconsistency problem of monetary policy.

Figure 9.1 plots trends in central bank independence from 1970 until 2012 using the data reported in Garriga (2016). It shows that the average level of central bank independence increased remarkably worldwide since the 1980s, including in Latin America (excluding the Caribbean). Average central bank independence in Latin America increased notably in the 1990s, even surpassing the world average, and leveled off in the 2000s. In contrast, average central bank independence in the Caribbean hardly increased, and these countries had an average level of central bank independence that is substantially below the world average. In contrast, in the group made up of the rest of the small economies of the world (ROSE), which is often used for comparative purposes, central bank independence increased markedly.

Table 9.1 zooms in on countries in the Caribbean, showing the detailed scores for the central banks in this region corresponding to year 2012 according to the studies by Bodea and Hicks (2015) and Garriga (2016).

¹⁰ This explains why the more important a central bank’s inflation objective is, the higher the bank’s score. If the index would have measured goal independence, then the more specific the law prescribes the mandate of the central bank, the lower the index should have been. This dimension of central bank independence should have received a higher weight in the index of Cukierman, Webb, and Neyapti (1992).

Table 9.1. Central Bank Independence in the Caribbean in 2012: Findings from Bodea and Hicks (2015) and Garriga (2016)

	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
Chief Executive Officer						
Term in office	–	0.5	0.5	0.5	0.3	0.5
Who appoints CEO?	–	0.0	0.0	0.0	0.3	0.0
Dismissal of CEO	–	0.8	0.8	0.8	0.7	0.8
May CEO hold other office?	–	0.5	1.0	0.5	0.5	1.0
<i>Total (Bodea and Hicks 2015)</i>	–	0.5	0.6	0.5	0.4	0.6
<i>Total (Garriga 2016)</i>	0.5	0.5	0.6	0.5	0.4	0.6
Policy Formulation						
Who formulates monetary policy?	–	0.3	0.7	0.7	0.3	0.7
Who has final word in resolution of conflict?	–	0.2	0.2	0.2	0.2	0.2
Is the central bank given an active role in formulation of the government budget?	–	0.0	0.0	0.0	0.0	0.0
<i>Total (Bodea and Hicks 2015)</i>		0.2	0.3	0.3	0.2	0.3
<i>Total (Garriga 2016)</i>	0.2	0.5	0.3	0.3	0.3	0.2
Objectives						
<i>Total (Bodea and Hicks 2015)</i>	–	0.6	0.4	0.4	0.4	0.4
<i>Total (Garriga 2016)</i>	0.6	0.6	0.6	0.4	0.6	0.4
Limitations on Central Bank Lending to the Government						
Advances (limitation on non-securitized lending)	–	0.3	1.0	0.3	0.7	0.3
Securitized lending	–	0.3	0.3	0.3	0.7	0.7
Terms of lending	–	0.3	1.0	0.3	0.3	0.3
Potential borrowers from central bank	–	0.7	1.0	0.0	1.0	0.0
Limits on central bank lending	–	–	0.7	0.3	0.3	0.3
Maturity of central bank loans	–	0.3	0.7	0.3	0.0	0.7
Interest rate on central bank loans	–	0.8	1.0	0.3	0.8	0.3
Central bank prohibited from buying/selling government securities in primary market?	–	0.0	0.0	0.0	0.0	0.0

(continued on next page)

Table 9.1. Central Bank Independence in the Caribbean in 2012: Findings from Bodea and Hicks (2015) and Garriga (2016) (continued)

	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
Total (Bodea and Hicks 2015)	–	0.4	0.7	0.2	0.5	0.3
Total (Garriga 2016)	0.4	0.3	0.8	0.4	0.6	0.5
Total for all four categories (Bodea and Hicks 2015)	–	0.4	0.7	0.3	0.5	0.4
Total for all four categories (Garriga 2016)	0.4	0.5	0.6	0.4	0.5	0.4

Sources: Bodea and Hicks (2015) and Garriga (2016).

Note: The index ranges between 0 (lowest level of central bank independence) and 1 (highest level of central bank independence). See Annex Table 9.1 for details.

The former source does not provide information for The Bahamas, while the latter only provides scores for the totals of the categories and not for individual items under each of the four categories (appointment of the CEO, policy formulation, objectives, and limitations on central bank lending to the government).

According to the sources cited in Table 9.1, the Caribbean countries generally reached about half of the maximum score (which is one) when it comes to the overall score for incompatibility, dismissal, and appointment procedure of the central bank governor. The score is lowered notably by the fact that the executive branch was responsible for the appointment decision in the Caribbean countries, according to these indices.¹¹

On policy formulation, the score of most Caribbean countries was 0.2 or 0.3; however, note that Barbados scored slightly higher according to the Garriga (2016) index, though not according to the Bodea and Hicks (2015) index. Since details underlying the Garriga index are not available, it is not clear what might explain these differences.

¹¹ An alternative index of central bank independence—the turnover rate of governors—focuses on the governor's term in office. The presumption is that if this rate is above a certain threshold, it reflects less central bank independence. According to Cukierman, Webb, and Neyapti (1992, 336) "because in most countries the electoral cycle is at least four years, it is likely that the threshold turnover, above which independence declines seriously, is somewhere between 0.2 and 0.25 changes a year (for an average tenure of four to five years)." Pereira (2018) provides the turnover rate of governors for four Caribbean countries considered here, calculated as the ratio of the number of central bank governors to the number of years since the establishment of the central banks as of end-2015. The turnover rate of governors for The Bahamas is 0.12, for Barbados 0.14, for Suriname 0.10, and for Trinidad and Tobago 0.20. However, these numbers do not take into account several recent developments discussed later in this chapter.

The scores on policy objectives for the Caribbean countries were either 0.4 (there were other objectives that may be in conflict with price stability) or 0.6 (there were other objectives that are not in conflict with price stability). According to Garriga (2016), the latter applied to The Bahamas, Barbados, Guyana, and Suriname, while the former applied to Jamaica and Trinidad and Tobago.

The final category (limitations on government lending) yielded a somewhat more mixed outcome. Guyana had the highest score, while Suriname faced the least limitations on central bank lending to the government according to Bodea and Hicks (2015), while Barbados had the lowest score according to Garriga (2016).

Table 9.2 shows the scores from an index based on a survey of central banks in the Caribbean conducted for this chapter in June 2019.¹² The index assesses the answers received on the issues shown in Annex Table 9.1, and on a reading of the central bank laws in place. The scores are based on the legislation in place at the time of the survey. However, for The Bahamas, Barbados, and Jamaica the scores based on those countries' (proposed) new laws are shown in parentheses if they deviate from the current law in place. At the time of this writing (December 2020), the new Barbados bill had already received parliamentary approval and its full enactment is expected to be in place in the first semester of 2021. For Jamaica, the new bill was pending royal assent from the governor-general (the final stage for the new Bank of Jamaica Act to pass into law). Table 9.2 forms the basis for recommendations discussed in Section 9.4.

In general, the scores shown in Table 9.2 are somewhat higher than those in Table 9.1, implying an overall improvement in central bank independence between 2012 and 2019. According to the reading of the law, the central bank independence index for The Bahamas is 0.7 instead of 0.4 as reported by Garriga (2016). The largest difference in the categories is for policy formulation (0.8 vs. 0.2). Likewise, while for Barbados the central bank independence index score was 0.5 under Garriga (2016) and 0.4 under Bodea and Hicks (2015), those scores under the analysis for this chapter are both 0.6. In this case, the largest differences between the other central bank independence indexes and the scoring for this chapter are for the limitations on lending to the government dimensions of the index. Notably, when considering the new law, Barbados' central bank

¹² Details, including the reasoning behind the scores on the elements of the index, are available on request. The author thanks the country economists at the Inter-American Development Bank for their support in collecting the data. See Annex Table 9.1 for an explanation of the index.

Table 9.2. Central Bank Independence in the Caribbean in 2019: Findings from the Survey Conducted for This Chapter

	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
Chief Executive Officer						
Term in office	0.5	0.5	0.5	0.5	0.5	0.5
Who appoints CEO?	0.0	0.0	0.0	0.0	0.0	0.0
Dismissal of CEO	0.8	0.8	0.8	0.8	0.0	0.8
May CEO hold other office?	1.0	1.0	1.0	0.5 (1.0)	0.5	1.0
<i>Total</i>	<i>0.6</i>	<i>0.6</i>	<i>0.6</i>	<i>0.5 (0.6)</i>	<i>0.3</i>	<i>0.6</i>
Policy Formulation						
Who formulates monetary policy?	1.0	0.3 (1.0)	1.0	0.7 (1.0)	0.3	0.7
Who has final word in resolution of conflict?	1.0	0.2 (1.0)	0.8	0.6	0.2	0.2
Is central bank given active role in formulation of government budget?	0.0 (1.0)	1.0	0.0	0.0	0.0	0.0
<i>Total</i>	<i>0.8 (1.0)</i>	<i>0.5 (1.0)</i>	<i>0.7</i>	<i>0.5 (0.7)</i>	<i>0.2</i>	<i>0.4</i>
Objectives						
<i>Total</i>	<i>0.6</i>	<i>0.6 (1.0)</i>	<i>0.6</i>	<i>0.4 (1.0)</i>	<i>0.4</i>	<i>0.6</i>
Limitations on Central Bank Lending to the Government						
Advances (limitation on non-securitized lending)	0.7	0.7	1.0	0.7	0.7	0.7
Securitized lending	1.0	0.7 (1.0)	1.0	0.7	0.7	1.0
Terms of lending	1.0	1.0	0.7	1.0	0.3	0.3
Potential borrowers from the central bank	0.3	0.3 (1.0)	1.0	0.0 (0.3)	1.0	1.0
Limits on central bank lending	0.3	0.0 (0.3)	0.0	0.3	0.3	0.3
Maturity of central bank loans	0.7	0.3 (1.0)	0.7	0.3	0.0	0.7
Interest rate on central bank loans	0.5	1.0	0.3	0.3	1.0	0.3
Central bank prohibited from buying/selling government securities in primary market?	0.0	0.0 (1.0)	0.0	0.0	0.0	0.0
<i>Total</i>	<i>0.7</i>	<i>0.6 (0.9)</i>	<i>0.8</i>	<i>0.5 (0.6)</i>	<i>0.6</i>	<i>0.7</i>
Total from All Categories	0.7	0.6 (0.9)	0.7	0.5 (0.6)	0.5	0.6

Source: Prepared by the author.

Note: Numbers in parentheses refer to new/proposed legislation. The index ranges between 0 (lowest level of central bank independence) and 1 (highest level of central bank independence). See Annex Table 9.1 for an explanation of the index. As explained in the annex table, the total index is not the average of the four subcomponents. Details for the scores calculated under the analysis for this chapter are available from the author upon request.

independence index increases to 0.9 (scores reported in parentheses). The new law is in line with most international best practices and places Barbados with an independence index in line with OECD standards and well above Latin American, Caribbean, and ROSE averages.

According to Garriga (Bodea-Hicks), the central bank independence index score for Guyana was 0.6 (0.7) in 2012. Under the reading of the law conducted for this chapter, the central bank independence index score remains mostly stable at 0.7. The total central bank independence scores for Jamaica according to Garriga and Bodea-Hicks were 0.4 and 0.3, respectively. The score for the analysis for this chapter is slightly higher (at 0.5); notably, the policy formulation score based on this analysis is higher (0.5 against 0.3).

For the Central Bank of Suriname, the independence index score conducted for the analysis in this chapter is 0.5, which is in line with Bodea-Hicks and Garriga. Notably, the score for the position of the CEO of the central bank is rather low. The current law also allows the government to fire the governor for nonpolicy reasons: “The President may be suspended or dismissed by the Government at the recommendation of the board of supervisory directors.” Indeed, the government has used this discretion: on February 12, 2019, the governor of the Central Bank of Suriname was dismissed.¹³

The independence score for the Central Bank of Trinidad and Tobago was 0.4 according to both Garriga (2016) and Bodea and Hicks (2015), while the score for the analysis for this chapter is 0.6. The difference is mainly due to category limitations on central bank lending to the government. The case of Trinidad and Tobago illustrates that despite the bank’s reasonably high level of legal independence, the government can still exert influence by dismissing the governor of the central bank. The law in place does not provide regulations on this, but in December 2015 the governor of the Central Bank of Trinidad and Tobago was dismissed by the government.¹⁴

At the time of this writing, The Bahamas and Jamaica were in the process of amending their central bank laws. The proposed changes in The Bahamas hardly affect the country’s central bank independence index score. However, in Jamaica the proposed new legislation enhances the independence of the central bank, as shown by the numbers reported in

¹³ See Victor Mendez-Barreira, “Suriname’s president fires central bank governor,” Central Banking, February 22, 2019. Available at: <https://www.centralbanking.com/central-banks/governance/4047606/surinames-president-fires-central-bank-governor>.

¹⁴ See “Trinidad and Tobago central bank governor sacked and replaced by deputy,” Central Banking, January 4, 2016. Available at: <https://www.centralbanking.com/central-banking/news/2440438/trinidad-and-tobago-governor-sacked-and-replaced-by-deputy>.

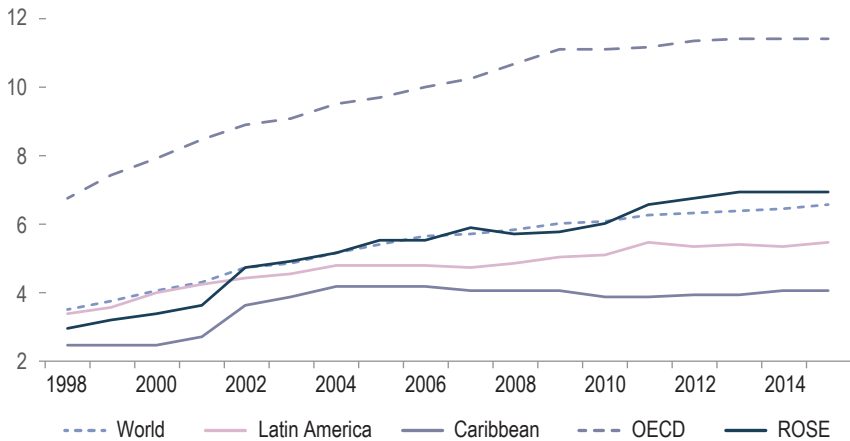
parentheses in Table 9.2. The purpose of the new legislation, according to the government, is to ensure that the central bank is made accountable for achieving low, stable, and predictable inflation.¹⁵

9.3. Trends in Central Bank Transparency

Figure 9.2 shows how central bank transparency has evolved between 1998 and 2015 using updates of the transparency indicator proposed by Eijffinger and Geraats (2006) as provided by Dincer, Eichengreen, and Geraats (2019). Annex Table 9.2 explains this index in some detail. As pointed out by Eijffinger and Geraats (2006), the index captures five dimensions of central bank transparency:¹⁶

- *Political transparency* refers to openness about policy objectives, capturing the formal objectives of monetary policy, including an

Figure 9.2. Central Bank Transparency in the World and Various Country Groups



Source: Dincer, Eichengreen, and Geraats (2019).

Note: Data for Latin America and the Caribbean exclude Suriname. OECD: Organisation for Economic Co-operation and Development; ROSE: rest of the small economies of the world. See Annex Table 9.2 for a detailed description of the central bank transparency index, which ranges between 0 and 15.

¹⁵ See Christopher Jeffery, “Jamaican finance minister clears a path for central bank independence,” *Central Banking*, October 24, 2018. Available at: <https://www.centralbanking.com/central-banks/governance/3814826/jamaican-finance-minister-clears-a-path-for-central-bank-independence>.

¹⁶ The index is very much based on the monetary policy decision-making process of an inflation-targeting central bank. As a consequence, central banks implementing another monetary policy strategy, such as a fixed exchange rate, receive a low score on some of its elements.

explicit prioritization in case of potentially conflicting goals, and quantitative targets. Political transparency is enhanced by institutional arrangements such as central bank independence, as these reduce political pressure to deviate from the stated objectives.

- *Economic transparency* focuses on the economic information that is used for monetary policy. It captures the economic data the central bank uses, the policy models it employs for forecasting or evaluation purposes, and the internal forecasts it relies on.
- *Procedural transparency* involves the way monetary policy decisions are taken. It includes an explicit monetary policy rule or strategy that describes the monetary policy framework, and an account of the actual policy deliberations and how policy decisions were reached. This is achieved by releasing minutes of the meetings of the central bank board and voting records.
- *Policy transparency* means a prompt announcement of policy decisions. It also includes an explanation of the decision and a policy inclination or indication of likely future policy actions. According to Eijffinger and Geraats (2016, 3), the latter is “relevant because monetary policy actions are typically made in discrete steps; a central bank may be inclined to change the policy instrument but decide to wait until further evidence warrants moving a full step.”
- *Operational transparency* concerns the implementation of the central bank’s policy actions. It captures a discussion of control errors in achieving the operating instrument or target set in the policy decision, and (unanticipated) macroeconomic disturbances that affect the transmission of monetary policy from instrument to outcome.

Each dimension of the index consists of three items. The maximum score on each item is 1.0. The total score of the central bank transparency index is simply the sum of all these items, so the maximum total score is 15.

Figure 9.2 shows that central bank transparency has increased over the years. The world average of the transparency index almost doubled between 1999 and 2013. However, in Latin American countries central bank transparency is below the world average, while central bank transparency in the Caribbean countries (excluding Suriname, for which Dincer, Eichengreen, and Geraats [2019] do not provide data) is even lower, despite an improvement at the beginning of the 2000s. In the second half of the period, the Dincer-Eichengreen-Geraats index for the Caribbean even shows a small decline. In contrast, the ROSE group steadily increased its level of central bank transparency, which at the end of the sample period was much higher than that in the Caribbean.

Table 9.3. Central Bank Transparency in the Caribbean: Dincer, Eichengreen, and Geraats (2019) Scores (I) and Scores Based on the Survey Conducted for This Chapter (II)

	The Bahamas		Barbados		Guyana		Jamaica		Suriname	Trinidad and Tobago	
	I	II	I	II	I	II	I	II	II	I	II
Political Transparency											
a.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	0.5	0.5	0.5
b.	0.5	1.0	0.0	0.0	0.0	0.0	0.5	1.0	0.0	0.0	0.0
c.	1.0	1.0	0.5	0.5	0.5	1.0	0.5	1.0	0.0	0.5	1.0
<i>Total</i>	2.0	2.5	1.0	1.0	1.0	1.5	1.5	3.0	0.5	1.0	1.5
Economic Transparency											
a.	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.0	1.0
b.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
c.	0.0	0.0	0.0	1.0	0.5	0.5	1.0	1.0	0.5	0.5	0.0
<i>Total</i>	0.0	0.0	0.0	1.5	0.5	0.5	1.0	1.5	0.5	0.5	1.0
Procedural Transparency											
a.	1.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0	0.0
b.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Total</i>	1.0	1.0	0.0	1.0	0.0	0.0	1.0	2.0	0.0	1.0	0.0
Policy Transparency											
a.	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	1.0
b.	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.5	0.5
c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Total</i>	0.0	1.5	0.0	1.5	0.0	0.5	0.0	1.5	0.0	1.5	1.5
Operational Transparency											
a.	1.0	0.0	1.0	1.0	0.0	0.5	0.5	0.5	0.0	1.0	0.0
b.	0.5	0.5	0.5	0.5	0.0	0.0	0.5	0.5	0.0	0.5	0.0
c.	0.5	0.5	0.5	1.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0
<i>Total</i>	2.0	1.0	2.0	2.5	0.0	0.5	1.5	1.5	0.0	1.5	0.0
Total for all five categories	5.0	6.0	3.0	7.5	1.5	3.0	5.0	9.5	1.0	5.5	4.0

Source: Prepared by the author based on Dincer, Eichengreen, and Geraats (2019) and the survey of central banks conducted for this chapter.

Note: The Dincer, Eichengreen, and Geraats (2019) score refers to 2015. These authors do not provide information on Suriname. See Annex Table 9.2 for a detailed description of the elements for each type of central bank transparency. The maximum score on each element is 1.0, so the maximum total score is 15. Details for the scores for the survey conducted for this chapter are available from the author upon request.

As pointed out by Dincer and Eichengreen (2014), the rise of central bank transparency can be understood in a number of related ways. First, it is part of a broader trend to make government more responsive to the public. Second, as pointed out above, transparency is a key element of central bank accountability. As central banks have become more independent, transparency has been considered a mechanism to enable the public to assess whether the actions of central banks are consistent with their mandate. As Siklos (2011, 929) puts it, “Democratic accountability for unelected officials and arm’s length institutions necessitates behavior that demonstrates sensitivity for the public’s need to understand how policy is made.” Third, central bank transparency may enable markets to respond more smoothly to policy decisions. When a central bank is more transparent about its economic outlook and how that outlook is related to its policy stance, monetary policy decisions are less likely to come as a surprise (see Blinder et al. [2008] for a more extensive discussion).

Table 9.3 shows the scores on the transparency index according to Dincer, Eichengreen, and Geraats (2019) observed in 2015 along with the scores based on a survey conducted for this chapter among the central banks in the Caribbean in June 2019 (see Annex Table 9.2 for a detailed description of the elements). Several conclusions can be drawn. First, the scores on central bank transparency based on the survey conducted for this chapter are higher than those of Dincer, Eichengreen, and Geraats (2019), except for Trinidad and Tobago. This may reflect either an increase in transparency between 2015 and 2019 or differences in coding. Second, there is considerable variation in central bank transparency across the Caribbean countries. It seems that having an inflation-targeting regime in place (as in Jamaica) is related to a high level of central bank transparency. This is not surprising for two reasons. First, a crucial feature of inflation targeting is a high degree of transparency. Second, the Eijffinger and Geraats (2006) index is very much inspired by a monetary policy strategy based on inflation targeting. However, the table also shows that countries with a fixed exchange rate regime (like The Bahamas and Barbados) can also have a reasonably high level of central bank transparency. Third, there is ample opportunity for several central banks to increase their level of transparency (see Section 9.4 for further discussion).

9.4. Options for Policy Reform

In a relevant report, the IMF (2015) put forward some principles for a coherent and transparent monetary policy framework. These include the following:

- The central bank should have a clear mandate (which should be set in the law) in terms of its goals, and operational independence to pursue these goals.
- The mandate should assign primacy to the goal of price stability. Clarifying that price stability is the overriding objective of monetary policy over the medium term provides a focal point for policy deliberations and helps ensure that policy decisions are consistent with this objective.
- Establishing and maintaining an explicit numerical inflation objective operationalizes the price stability mandate. The inflation target should only be modified rarely, and not due to short-term political pressures or conjunctural circumstances, but rather as part of a systematic and transparent review of the entire monetary policy framework.
- However, some lower-middle-income countries have and will continue to choose fixed exchange rate regimes. These regimes have both advantages and disadvantages (see Box 9.1 for details).
- Given a clear goal and operational independence, appropriate and timely transparency arrangements should be in place. The focus of communication should be on explaining past outcomes and actions necessary to align expected inflation outcomes with the policy objective.

The following sections discuss options and provide recommendations to improve monetary institutions in Caribbean countries.

9.4.1. *The Bahamas*

The website of the Central Bank of The Bahamas points out that “the fundamental objective of monetary policy in The Bahamas has always been to maintain stable credit and other conditions to support the fixed parity between the Bahamian and U.S. dollars that has prevailed since 1973, while simultaneously allowing the economic development objective to be pursued.”¹⁷ The central bank’s role in promoting economic development—which, according to the website, “requires promoting and supporting a high level of domestic production, employment and growth”—may be at odds with the main objective. The central bank law states the central bank’s objective differently, namely “to promote and maintain monetary

¹⁷ The Central Bank of The Bahamas, “Monetary Policy in The Bahamas.” Available at: https://www.centralbankbahamas.com/policy_objectives.php.

stability and credit and balance of payments conditions conducive to the orderly development of the economy.” (This formulation is the basis for the scoring for the analysis conducted for this chapter shown in Table 9.2.) It should be made clear in the law whether price stability or exchange rate stability is the primary objective.

The website also explains that the main instruments of monetary policy are reserve requirements, changes in the central bank discount rate, and selective credit controls, supplemented by moral suasion. The central bank affects interest rates by varying its discount rate, which is used mainly to signal changes in monetary policy. For the most part, interest rate policy reflects changing responses to bank liquidity and domestic credit conditions.

Like in most countries, the government is responsible for appointing the governor of the central bank. (To be precise, the governor is appointed by the governor general, on the advice of the minister of finance.) The governor can only be removed from office for reasons not related to policy.

The Bahamas has recently adopted legislation to enhance central bank independence, but the new legislation does not increase the central bank independence index. For example, the amendment of the law did not introduce new limitations on restrictions to lending to the government.¹⁸ So there is some scope for further improvements. Table 9.2 suggests that although the level of central bank independence in The Bahamas is already quite high, restricting the number of government entities that can borrow from the central bank and prohibiting the central bank from buying government debt in the primary market would further enhance central bank independence.

As to monetary policy transparency, the Central Bank of The Bahamas provides a lot of information on its website, including monthly reports on economic and financial developments. In addition, it issues quarterly economic briefings that provide details about the Monetary Policy Committee’s assessment as to “whether, given trends and the outlook, any adjustments are necessary to policies affecting money and credit trends, and whether the outlook for the external reserves are within the safe bounds that would uphold the value of the Bahamian currency.”¹⁹ Although the bank’s political transparency score is high (Table 9.3), some further steps regarding other

¹⁸ A steady increase in central bank lending to the government led to a breach of statutory limits in early 2017 (IMF 2018b).

¹⁹ See “MPC Press Briefing, Remarks by John Rolle, Governor,” Central Bank of The Bahamas, July 26, 2019. Available at: <https://www.centralbankbahamas.com/download/053042200.pdf>.

dimensions of transparency may be considered, notably with respect to the central bank's forecasts, which are currently formulated in very general terms, and disclosure of the discussion about policy steps taken.²⁰

9.4.2. *Barbados*

Under the law that was about to be amended at the time of this writing (December 2020), the objectives of the central bank were to (1) regulate the issue, supply, availability, and international exchange of money; (2) promote monetary stability; (3) promote a sound financial structure; (4) foster the development of money and capital markets; and (5) foster credit and exchange conditions conducive to orderly and sustained economic development. These were rather general objectives that could stand to be made more specific, reflecting actual policies. This has been largely addressed in the new law which clearly states maintaining the value of the currency as primary objective and promoting financial stability as secondary objective.

Under a fixed exchange rate regime, increasing central bank independence is also beneficial. For instance, limiting central bank lending to the government, one dimension of central bank independence, may enhance the credibility of a peg. In line with this view, the International Monetary Fund (IMF) stated in a recent country report on Barbados that eliminating central bank funding of the government is critical to preserving the exchange rate peg. According to the IMF, two years of large direct central bank financing of the government has contributed to the decline in international reserves (IMF 2018c). As shown in Table 9.2, the new central bank law has tackled this issue by limiting the central bank lending to the government. The new law has introduced limits on government borrowing, only allowing short-term advances, and prohibiting the central bank from buying government debt on the primary market.

Barbados has also enhanced its legislation regarding governance of the central bank. Under the new law, the exact conditions under which the governor can be dismissed have been clearly specified in the Central Bank Act. The new law includes provisions in which the governor can be dismissed only under exceptional and nonpolicy-related circumstances and under proper rules. In the new law, the influence of the government

²⁰ The score on economic transparency in Table 9.3 is also low, but this reflects to a considerable extent that the index is not designed for a monetary policy strategy aimed at a fixed exchange rate. From this perspective, information on international reserves, liquidity conditions, etc. is more useful, and this information is provided.

on monetary policy formulation has also been largely reduced. However, Article 63 of the new Central Bank Act still offers the minister of finance the opportunity to give orders to the central bank about the macroeconomic policies to be adopted by the central bank if the minister is “of the view that the macroeconomic policies of the Bank are not adequate for or conducive to the achievement of the purposes of the Bank as set out at sections 6(1) and 6(2).”

Overall, the process of amending the Central Bank Act experienced by Barbados with the IMF legal technical assistance as part of its IMF program has yielded a largely positive outcome. Significant amendments which now limit central bank financing of the government to short-term advances and strengthen the central bank’s mandate, autonomy, and decision-making structures have materialized. This is reflected in the higher score on the central bank independence index which is now well above regional averages and in line with OECD standards.

As to monetary policy transparency, the central bank holds quarterly press conferences to discuss the economic situation and prospects. A key indicator is the import reserve cover (i.e., the number of weeks that the amount of international reserves covers the imports of goods and services). As the relatively low score for procedural transparency in Table 9.3 indicates, more transparency is needed about the rationale for the policy steps taken. Although policy steps as such are clearly communicated, transparency about discussions regarding these decisions could be enhanced during the press conferences and in the central bank’s publications.

9.4.3. *Guyana*

Compared to most other countries in the region, Guyana has a fairly independent central bank. Its inflation performance is also among the best in the Caribbean (although inflation did increase to close to 3 percent in 2019). Still, there is room for some improvements, notably with respect to financial relations with the government. The IMF (2018d) notes that the government had accumulated an overdraft balance (reflecting increased oil revenues) at the central bank of 9 percent of GDP at end-2018 (up from around 5 percent at end-2017 and end-2016). The IMF recommends settling these balances at the central bank and relying on the issuance of Treasury bills for future government cash flow management.

The Bank of Guyana Act sets out the central bank’s principal objectives as follows: “Within the context of the economic policy of the government, the bank shall be guided in all its actions by the objective of fostering domestic price stability through the promotion of stable credit

and exchange conditions, as well as sound financial intermediation conducive to the growth of the economy of Guyana.” This is a rather broad objective. It could be made more specific, making clear whether stability of the currency or prices is the primary objective of monetary policy and by removing the reference to economic growth as the latter should not be an objective of the central bank, but of the government.

In its reports, the central bank explains that it uses a targeted path for the growth of broad money, consistent with economic growth and inflation. But these targets are not announced. According to the central bank, this monetary targeting policy is based on the observation that the central bank controls the supply of reserve or base money, which is comprised of currency in circulation and commercial banks’ reserves at the central bank. The underlying assumption for the effective operation of the reserve money targeting strategy is the long-term stability of the money multiplier, which is defined as the relationship between reserve money and the broad money supply. The central bank’s principal instrument of monetary control is the auction of Treasury bills in the primary market. The monetary policy stance is signaled through the volume of Treasury bills issued. Information on these auctions is provided in the reports published by the central bank.

Monetary policy transparency in Guyana could be enhanced. The Bank of Guyana’s website provides a lot of information, including statistics, but details about the process of monetary policy decisions are not provided. The main communication devices seem to be the reports published with varying frequencies. Apart from an annual report, the bank also publishes half-year reports and a quarterly report. Although monetary policy is discussed in these reports, the discussion is in rather general terms and does not provide much detail about decisions taken and the rationale behind them. This explains the country’s rather low scores on procedural and policy transparency in Table 9.3.

9.4.4. *Jamaica*

In 2018, the Jamaican government proposed legislation to enhance central bank independence. The proposed law has been approved by the Jamaican House of Representatives and the Jamaican Senate in November and December 2020, respectively. The proposed revisions to the Bank of Jamaica Act are definitely steps in the right direction. The reforms envisaged include (1) clarifying that the primary objective of the Bank of Jamaica (BOJ) is price stability, (2) strengthening the BOJ’s institutional independence and accountability, (3) putting in place an effective board decision-making structure, and (4) restoring the BOJ’s policy solvency (IMF 2018a). Accordingly, Jamaica’s score on the central bank independence

index will increase. It is evident that the clear mandate to give stable prices top priority is a major step forward.²¹ However, the new act also states that the central bank in achieving its principal objective must recognize the growth and employment objectives of the government. Under the new act, the minister of finance will no longer appoint BOJ board members; this power will reside with the governor-general. Furthermore, the Monetary Policy Committee (MPC) will have responsibility for formulating monetary policy, which had previously been the remit of the central bank's governor.

Jamaica has introduced an inflation-targeting regime. The mandate of the BOJ is to maintain price stability, defined as a medium-term inflation target of 4 to 6 percent as established by the Minister of Finance and the Public Service. The main policy instrument is the interest rate on overnight balances in the current accounts of deposit-taking institutions at the BOJ.

In general, inflation targeting may be a very effective monetary policy strategy to maintain price stability. However, as pointed out by the IMF (2018a), successful inflation targeting will require a clear commitment to a flexible and market-determined exchange rate with limited involvement of the central bank in the currency market. This implies that foreign exchange sales should be confined to disorderly market conditions, especially given the reductions in the surrender requirements, and buy auctions should aim to build reserves in a non-disruptive manner.

Concerning monetary policy transparency, the BOJ has a relatively good score (Table 9.3). The BOJ's website is very informative, providing a lot of information about the process of monetary policymaking. The bank even publishes videos on YouTube to explain its inflation-targeting policies to the public at large.²² The bank published its first pre-announced 12-month calendar of monetary policy decisions on February 13, 2018. To date, the calendar has continuously been updated semi-annually to reflect the 12 subsequent months. To further advance this objective the BOJ will develop a comprehensive communication strategy that includes regular press releases and briefings to ensure clarity about its policy decisions (IMF 2018a). For example, on February 4, 2019, the BOJ used a social media campaign to reassure the country's population after it sold US\$60 million on foreign exchange markets. These are important steps to further enhance transparency.

²¹ The limited increase in the central bank independence index as reported in Table 9.2 reflects that this dimension of central bank independence—which is the most important dimension for reasons outlined earlier in this chapter—receives a relatively small weight in the central bank independence index of Cukierman, Webb, and Neyapti (1992).

²² See a video prepared by the BOJ at <https://www.youtube.com/watch?v=dz1R9UNOL5Y>.

9.4.5. *Suriname*

Suriname let its exchange rate float in May 2016, but after a period of flexibility in 2016 the exchange rate has been tightly managed. This runs the risk that analysts and market participants will perceive that the exchange rate is the country's nominal anchor (IMF 2018f). The current objectives of the Central Bank of Suriname (CBvS) include promoting stability in the value of the Surinamese currency and promoting the balanced socio-economic development of the country. Notably, the first objective could be made more specific, making clear whether internal or external stability of the currency is the primary objective of monetary policy and the second one should be removed as developmental policies should be undertaken by the government and not by a central bank.

As pointed out earlier, even if priority is given to fixing the exchange rate, enhancing central bank independence may be useful. And there are several steps Suriname may consider, notably with respect to the governance of the CBvS and limiting its lending to the government. Most importantly, the influence of the government in the appointment and dismissal of the central bank governor should be restricted. In remarks to officials on March 16, 2019, the incoming governor of the CBvS stressed that the central bank would continue to act within legal boundaries under his leadership.²³ However, the current law offers the government too much discretion to dismiss the governor.

Suriname should also introduce much stricter limits on central bank lending to the government. These restrictions should be included in the law. Although the Memorandum of Understanding between the CBvS and the Ministry of Finance regarding the prohibition of monetary financing ruled out financing of the deficit by the central bank (IMF 2018f), including these restrictions in formal legislation would be preferable. It is worrisome that following the dismissal of the previous CBvS governor, the government announced that: "The merger between fiscal and monetary policy will continue unabated and the CBvS will act in accordance with its duties set out in the Banking Act."²⁴ In February 2020, the governor of the CBvS left the bank less than a year after being appointed to lead the institution.²⁵

²³ See Rachael King, "Suriname's president replaces fired governor," *Central Banking*, April 18, 2019. Available at: <https://www.centralbanking.com/central-banks/governance/people/4154311/new-governor-of-central-bank-of-suriname-appointed>.

²⁴ See Victor Mendez-Barreira, "Suriname's president fires central bank governor," *Central Banking*, February 22, 2019. Available at: <https://www.centralbanking.com/central-banks/governance/4047606/surinames-president-fires-central-bank-governor>.

Monetary policy transparency in Suriname is among the most limited in the region. Other central banks in the Caribbean perform much better in terms of political, policy, and economic transparency. According to its website, the CBvS believes “in being transparent in everything we do as the Central Bank of Suriname, so as to be able to, at any time, explain why we do what we do.” However, the most recent annual report provided on the website is for 2014. Furthermore, the website does not offer a clear explanation of CBvS policy decisions and their motivation. The Dutch version of the website is slightly more informative and mentions that the central bank is working on “modernization of its monetary policy framework.” But few details are provided as to how the “reserve money targeting regime” is implemented. On the positive side, the CBvS bank publishes a monthly inflation bulletin in which it also provides inflation forecasts.

9.4.6. *Trinidad and Tobago*

The Central Bank of Trinidad and Tobago is fairly independent, but regulations concerning governance of the bank could be improved. Notably, introducing proper procedures to deal with conflicts with the government could be very helpful in this respect. Current rules in the Central Bank Act covering the resolution of disputes between the government and the central bank are inadequate and do not articulate who has the final responsibility for policies.

Trinidad and Tobago might also consider revising the Central Bank Act in order to give price stability explicit priority.²⁶ Currently, the central bank has as its primary objectives (1) a low and stable rate of inflation, (2) an orderly foreign exchange market, and (3) an adequate level of foreign exchange reserves.²⁷ Although there are advantages as well as disadvantages to a peg, as pointed out in Box 9.1 the exchange rate of Trinidad and

²⁵ See Rachael King, “Central Bank of Suriname governor resigns amid scandals,” Central Banking, February 4, 2020. Available at: <https://www.centralbanking.com/central-banks/governance/accountability/4699151/governor-of-central-bank-of-suriname-resigns-amid-scandals>.

²⁶ Currently, the law prescribes that “The Bank shall have as its purpose the promotion of such monetary, credit and exchange conditions as are most favourable to the development of the economy of Trinidad and Tobago, and shall, without prejudice to the other provisions of this Act:...(d) maintain monetary stability, control and protect the external value of the monetary unit, administer external monetary reserves, encourage expansion in the general level of production, trade and employment.”

Tobago is not firmly pegged to the U.S. dollar as in the case of The Bahamas and Barbados. The IMF (2018e, 21) has argued for more exchange rate variability: “Allowing gradually some market forces in determining the exchange rate (e.g., within a widening band) could facilitate adjustment to external shocks, help restore competitiveness, and safeguard foreign reserves. Permitting two-way exchange-rate variation could help reduce incentives for FX hoarding and one-way currency bets, while allowing the exchange rate to anchor inflation expectations with some scope for flexible monetary policy.”

A major issue with the current monetary policy strategy is that communicating monetary policy decisions in a clear and comprehensible manner is rather challenging. For instance, the central bank explained its monetary policy decision on September 29, 2019 as follows: “The Monetary Policy Committee (MPC) in its deliberations considered the changes in the external environment, especially slowing global growth and policy actions by major central banks. Locally, the available indicators suggest that the economic recovery is not yet broad-based, inflation remains low, the demand for business credit is sluggish and external balance has not yet been restored. Taking these factors into consideration, the MPC agreed to maintain the repo rate at 5 per cent. The Bank will continue to carefully monitor and analyze international and domestic developments.” This statement is not very transparent and informative about how the MPC dealt with several trade-offs that exist due to its multiple objectives. It is also not forward-looking. Providing more details on how the central bank deals with these trade-offs and doing so in a forward-looking manner could enhance transparency.

Having said that, the central bank has clearly made steps to enhance its transparency. For instance, it publishes a significant amount of data and an economic bulletin (and a visual summary of the bulletin) on its website. The website provides a lot of other information as well. Policy decisions are also announced in a timely fashion.

9.5. Conclusions

There is substantive evidence that countries with an independent and inflation-averse central bank in charge of monetary policy have better economic performance than countries where the government has a major say in monetary policymaking. Over the last few decades, many countries

²⁷ See Central Bank of Trinidad and Tobago, “Monetary Objectives.” Available at: <https://www.central-bank.org.tt/core-functions/monetary-policy>.

have therefore increased the level of independence of their central banks. However, in general the level of independence of central banks in the Caribbean is below the world average, although there are differences across countries. The region's central bank independence scores are also lower than those in ROSE, the country grouping that is often used for comparative purposes. A further indication that politics has too much influence on central banks in the Caribbean is the dismissals of central bank governors in several countries after they ran into conflict with their respective government. Enhancing central bank independence is thus warranted, notably with respect to the governance of central banks and the limitations on central bank lending to the government. Hopefully, the recently proposed changes to the Central Bank Law in Jamaica will set an example for other countries in the region.

An alternative way to maintain price stability is a fixed exchange rate regime. Some countries in the Caribbean, most notably The Bahamas and Barbados, have pegged their currency to the U.S. dollar. In this regard, a high degree of central bank independence is also beneficial under a fixed exchange rate regime, for example by helping to maintain the credibility of the peg, notably by limiting government interference and restricting central bank lending to the government.

Nowadays, central bank transparency is considered an important companion of central bank independence. Although there is considerable variation among Caribbean countries, in general the level of central bank transparency in the region is rather low according to the data provided by Dincer, Eichengreen, and Geraats (2019).²⁸ Although the interpretation of central bank transparency in the analysis conducted for this chapter is in some cases slightly more positive, there is still considerable room for improvement. The most important dimensions of central bank transparency where improvements are needed are policy and procedural transparency. Enhanced transparency is a key part of central bank accountability, also to the public at large, and may enhance the effectiveness of monetary policy.

²⁸ To some extent this may reflect that the transparency index used implicitly takes an inflation-targeting regime as its benchmark, while several countries in the region have a (more or less) fixed exchange rate regime. Apart from Jamaica, none of the central banks considered follows an inflation-targeting regime.

Annex Table 9.1. The Central Bank Independence Index

1. Chief Executive Officer (CEO)

- a. *Term of office*
 - Over eight years 1.0
 - Six to eight years 0.75
 - Five years 0.5
 - Four years 0.25
 - Under four years 0.0
- b. *Who appoints CEO?*
 - Board of central bank 1.0
 - A council of the central bank board, executive branch, and legislative branch 0.75
 - Legislature 0.5
 - Executive collectively (e.g., council of ministers) 0.25
 - One or two members of the executive branch (prime minister, president, or any other member) 0.0
- c. *Dismissal of CEO*
 - No provision for dismissal 1.0
 - Only for reasons not related to policy (incapacity or violation of law) 0.83
 - At the discretion of central bank board 0.67
 - For policy reasons at legislature's discretion 0.50
 - Unconditional dismissal possible by legislature 0.33
 - For policy reasons at executive's discretion 0.17
 - Unconditional dismissal possible by executive 0.0
- d. *May CEO hold other offices in government?*
 - No 1.0
 - Only with permission of the executive branch 0.5
 - No rule against CEO holding another office 0.0

2. Policy Formulation

- a. *Who formulates monetary policy?*
 - Central bank alone 1.0
 - Central bank participates together with government 0.66
 - Central bank only advises government 0.33
 - Central bank has no say (government alone formulates monetary policy) 0.0

- b. *Who has the final word in resolution of conflict?*
- The central bank, on issues clearly defined in the law as its objectives 1.0
 - Government, but only on policy issues not clearly defined as the central bank's goals or in case of conflict within the bank 0.8
 - A council of the central bank, executive branch, and legislative branch makes the final decision 0.6
 - The legislature has final authority on policy issues 0.4
 - The executive branch on policy issues, subject to due process and possible protest by central bank 0.2
 - The executive branch has unconditional authority over policy 0.0
- c. *Is the central bank given an active role in the formulation of the government's budget?*
- Yes 1.0
 - No 0.0

3. Objectives

- Price stability mentioned as the major or only objective in the charter, and in case of conflict with government the central bank has final authority to pursue policies aimed at achieving this goal 1.0
- Price stability is the only objective 0.8
- Price stability is only one goal, with other compatible objectives, such as stable banking 0.6
- Price stability is only one goal, with potentially conflicting objectives, such as full employment 0.4
- No objectives stated in the bank charter 0.2
- Stated objectives do not include price stability 0.0

4. Limitations on Central Bank Lending to the Government

- a. *Advances (limitation on non-securitized lending)*
- No advances permitted 1.0
 - Advances permitted, but with strict limits (e.g., absolute cash amounts or up to 15 percent of government revenue) 0.66
 - Advances permitted, and the limits are loose (e.g., over 15 percent of government revenue) 0.33
 - No legal limits on lending 0.0

- b. *Securitized lending*
 - Not permitted 1.0
 - Permitted, but with strict limits (e.g., up to 15 percent of government revenue) 0.66
 - Permitted, and the limits are loose (e.g., over 15 percent of government revenue) 0.33
 - No legal limits on lending 0.0
- c. *Terms of lending (maturity, interest, amount)*
 - Controlled by the central bank 1.0
 - Specified by the central bank charter 0.66
 - Agreed between the central bank and the executive 0.33
 - Decided by the executive branch alone 0.0
- d. *Potential borrowers from the central bank*
 - Only the central government 1.0
 - All levels of government (state as well as central) 0.66
 - Those mentioned above and public enterprises 0.33
 - Public and private sector 0.0
- e. *Limits on central bank lending defined in:*
 - Currency amounts 1.0
 - Shares of central bank liabilities or capital 0.66
 - Shares of government revenue 0.33
 - Shares of government expenditures 0.0
- f. *Maturity of central bank loans*
 - Maximum of six months 1.0
 - Maximum of one year 0.66
 - Maximum of more than one year 0.33
 - No mention of upper bounds on maturity in the law 0.0
- g. *Interest rates on central bank loans must be:*
 - At market rates 1
 - Interest rates cannot be lower than certain floor 0.75
 - Interest rates cannot exceed certain ceiling 0.50
 - No explicit legal provisions regarding interest rates 0.25
 - No interest on government borrowing from the central bank 0.0
- h. *Central bank prohibited from buying or selling government securities in the primary market*
 - Yes 1.0
 - No 0.0

These 16 criteria are combined into eight criteria as follows:

1. Four variables concerned with the independence of the CEO are aggregated with equal weights, that is, $(1a+1b+1c+1d)/4$
2. The three policy formulation variables—namely 2a, 2b, and 2c—are aggregated (with weights of 0.5, 0.25, and 0.25, respectively) as one variable
3. Objectives criterion
4. Advances criterion under limits on lending
5. Securitized lending criterion under limits on lending
6. Terms of lending criterion under limits on lending
7. Potential borrowers from the bank criterion under limits on lending
8. Four criteria—4e, 4f, 4g, and 4h—on limits on lending are aggregated into one by using equal weights, namely $(4e+4f+4g+4h)/4$

The total index is the unweighted average of these eight aggregated variables.

Source: Cukierman, Webb, and Neyapti (1992).

Annex Table 9.2. The Central Bank Transparency Index

1. Political Transparency

- a. *Is there a formal statement of the objective(s) of monetary policy, with an explicit prioritization in case of multiple objectives?*
 - No formal objective(s) 0.0
 - Multiple objectives without prioritization 0.5
 - One primary objective, or multiple objectives with explicit priority 1.0
- b. *Is there a quantification of the primary objective(s)?*
 - No 0.0
 - Yes 1.0
- c. *Are there explicit institutional arrangements or contracts between the monetary authorities and the government?*
 - No central bank, contracts, or other institutional arrangements 0.0
 - Central bank without explicit instrument independence or contract 0.5
 - Central bank with explicit instrument independence or central bank contract (although possibly subject to an explicit override procedure) 1.0

2. Economic Transparency

- a. *Is the basic economic data relevant for the conduct of monetary policy publicly available?*
(The focus is on the release of data for the following five variables: money supply, inflation, GDP, unemployment rate, and capacity utilization)
 - Quarterly time series for at most two out of the five variables 0.0
 - Quarterly time series for three or four out of the five variables 0.5
 - Quarterly time series for all five variables 1.0
- b. *Does the central bank disclose the formal macroeconomic model(s) it uses for policy analysis?*
 - No 0.0
 - Yes 1.0
- c. *Does the central bank regularly publish its own macroeconomic forecasts?*

- No numerical central bank forecasts for inflation and output 0
- Numerical central bank forecasts for inflation and/or output published at less than quarterly frequency 0.5
- Quarterly numerical central bank forecasts for inflation and output for the medium term (one to two years ahead), specifying the assumptions about the policy instrument (conditional or unconditional forecasts) 1.0

3. *Procedural Transparency*

- a. *Does the central bank provide an explicit policy rule or strategy that describes its monetary policy framework?*
 - No 0.0
 - Yes 1.0
- b. *Does the central bank give a comprehensive account of policy deliberations (or explanations in case of a single central banker) within a reasonable amount of time?*
 - No, or only after a substantial lag (more than 8 weeks) 0.0
 - Yes, comprehensive minutes (although not necessarily verbatim or attributed) or explanations (in case of a single central banker), including a discussion of backward- and forward-looking arguments 1.0
- c. *Does the central bank disclose how each decision on the level of its main operating instrument or target was reached?*
 - No voting records, or only after substantial lag (more than 8 weeks) 0.0
 - Non-attributed voting records 0.5
 - Individual voting records, or decision by single central banker 1.0

4. *Policy Transparency*

- a. *Are decisions about adjustments to the main operating instrument or target promptly announced?*
 - No, or after a significant lag 0.0
 - Yes, at the latest on the day of implementation 1.0
- b. *Does the central bank provide an explanation when it announces policy decisions?*
 - No 0.0
 - Yes, when policy decisions change, or only superficially 0.5

- Yes, always and including forwarding-looking assessments 1.0
- c. *Does the central bank disclose an explicit policy inclination after every policy meeting or an explicit indication of likely future policy actions (at least quarterly)?*
- No 0.0
 - Yes 1.0

5. Operational Transparency

- a. *Does the central bank regularly evaluate to what extent its main policy operating targets (if any) have been achieved?*
- No, or not very often (at less than annual frequency) 0.0
 - Yes, but without providing explanations for significant deviations 0.5
 - Yes, accounting for significant deviations from target (if any); or (nearly) perfect control over main operating instrument/target 1.0
- b. *Does the central bank regularly provide information on (unanticipated) macroeconomic disturbances that affect the policy transmission process?*
- No, or not very often 0.0
 - Yes, but only through short-term forecasts or analysis of current macroeconomic developments (at least quarterly) 0.5
 - Yes, including a discussion of past forecast errors (at least annually) 1.0
- c. *Does the central bank regularly provide an evaluation of the policy outcome in light of its macroeconomic objectives?*
- No, or not very often (at less than annual frequency) 0.0
 - Yes, but superficially 0.5
 - Yes, with an explicit account of the contribution of monetary policy in meeting the objectives 1.0

The score for each category of transparency is the unweighted sum of the three questions under each type of transparency. The total index for central bank transparency is the unweighted sum of the five types of transparency (i.e., the unweighted sum of the score on the 15 questions).

Source: Eijffinger and Geraats (2006).

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Financial Regulation and Supervision in Caribbean Countries

Liliana Rojas-Suarez and María Alejandra Zegarra¹

Countries across the Caribbean face similar challenges to achieve economic growth and development. Every year, increasingly devastating hurricanes destroy infrastructure and capital, depress local economies, and cause the loss of human lives. Moreover, cyclical declines in world prices for oil and other commodities profoundly impact the economic prospects of Caribbean countries. Dealing with high economic and financial volatility is, therefore, a major challenge faced by these countries.

Under these circumstances, sound financial regulation and supervision in Caribbean countries is a must to support financial stability and the management of unforeseen adverse domestic or external shocks. For example, healthy banks have capital and liquidity buffers that help minimize the effects of adverse shocks on the economy by preventing sharp disruptions in credit flows. Moreover, in stable financial systems, financial intermediaries can allocate capital effectively and evaluate and manage financial risks strengthening economic growth and development (World Bank 2020b). Finally, financial stability encourages domestic savings and allows firms and households continuous access to credit.²

Sound financial systems would also allow Caribbean countries to prevent the recurrence of systemic banking crises.³ This is particularly relevant

¹ The authors are grateful for comments provided by Diether Beuermann, Diego Herrera, and Moisés Schwartz.

² This chapter, however, does not analyze the potential trade-offs that may arise between financial stability and financial inclusion as a result of regulation. A discussion of financial development issues in the Caribbean can be found in Chapter 11 of this volume.

³ Systemic banking crises occur when a large number of banks simultaneously experience problems meeting their long-term or other financial obligations (solvency) and do not have liquid assets to meet their short-term obligations (liquidity). These events often occur when the same shock reaches all banks or because the disruption of one bank or a group of banks spreads to other banks (World Bank 2020a).

given that a group of Caribbean countries has already experienced systemic banking crises that have resulted in large output losses and fiscal costs.⁴ A clear example of the profound effects of these events is the systemic banking crises in Jamaica between 1986 and 1991,⁵ which led to a GDP decline of 37.8 percent, fiscal costs of 43.9 percent of GDP,⁶ and a 2.9 percent rise in public debt (Laeven and Valencia 2018).

This chapter analyzes the regulatory and supervisory frameworks of a group of Caribbean countries, evaluates whether implementation of the new approach to financial regulation (the so-called macroprudential approach) is adequate for the region, and provides country-specific recommendations to improve financial regulation and supervision. The countries under study are The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago.⁷ As a preamble to the discussions in the chapter, the next section first provides a brief characterization of the financial systems in the region.

10.1. Banks Are the Core of Financial Systems in the Caribbean

Commercial banks are the dominant financial institutions in Caribbean countries.⁸ In the region, ratios of total assets to GDP—an indicator of financial depth—fluctuate between 63 and 125 percent (Table 10.1).⁹ Banks are the main repository of savings and the principal source of firm and household finance.¹⁰

The banking sector in the Caribbean countries is highly concentrated, with a small number of institutions holding a very large share of total assets.

⁴ According to Laeven and Valencia (2018), the following Caribbean countries have experienced systemic banking crises: Dominican Republic (2003–2004), Haiti (1994–1998), Jamaica (1996–1998), and Guyana (1993). (The Inter-American Development Bank classifies Guyana as part of the Caribbean.)

⁵ Following the liberalization of its financial sector, Jamaica experienced a rapid expansion of private sector credit that led to illiquidity and insolvency problems in its domestic financial system (Tennant and Kirton 2006).

⁶ Fiscal costs involve disbursements related to the financial sector's restructuring (Laeven and Valencia 2018).

⁷ The six countries analyzed constitute the Inter-American Development Bank's Caribbean Country Department.

⁸ The domestic financial sector players are typically commercial banks, domestic insurers, credit unions, mutual funds, pension funds, and other local financial institutions.

⁹ Due to data limitations, the ratio of bank assets to GDP for Suriname is from 2013, when the ratio was 49 percent.

¹⁰ In addition to short- and medium-term loans to households and corporations, banks also provide mortgage lending, credit card services, ATM facilities, and trust management services.

Table 10.1. Caribbean Domestic Banking Sector, 2018–2019

Variable	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
GDP in billions of U.S. dollars	12.42	5.09	3.90	15.46	3.43	22.52
GDP per capita in U.S. dollars	32,997	17,758	4,984	5,406	5,798	16,379
GDP per capita in PPP 2011 international dollars ^a	29,161	16,577	7,625	8,418	13,427	28,687
Commercial bank branches (per 100,000 adults)	27.39	17.21	8.27	7.13	11.52	11.77
Domestic credit to private sector (percent of GDP)	52.13	87.69	44.72	32.02	38.05	39.82
Total commercial bank assets/GDP (percent)	94.80	124.76	62.49	74.35	49.00	93.07
Total commercial bank deposits/GDP (percent)	81.67	96.37	49.71	48.79	n.a.	70.80
Market structure						
Number of commercial banks	7	6	6	8	10	8
Total assets accounted for by the five largest banks (percent)	70.50	100.00	97.00	91.10	87.00	95.00
Total bank assets that are foreign-owned (percent)	97.30	100.00	40.00	80.00	16.70	44.00
Total deposits accounted for by the five largest banks (percent)	67.20	100.00	n.a.	91.00	90.70	96.00

Sources: Caribbean survey conducted in 2019 for this chapter (see Section 10.5.2 for more details) and World Bank, Global Financial Development database (www.worldbank.org/en/publication/gfdr/data/global-financial-development-database), and World Development Indicators database (<https://data-bank.worldbank.org/reports.aspx?source=world-development-indicators>).

Note: n.a.: not available.

^a PPP: purchasing power parity.

In the 1990s, the financial liberalization process led to a consolidation of the system, which reduced the number of banks.¹¹ Among Caribbean countries, assets accounted for by the five largest banks vary between 71 and 100 percent, and deposits between 67 and 100 percent (Table 10.1). Subsidiaries of foreign banks account for most assets in Barbados, The Bahamas, and Jamaica. The participation of foreign subsidiaries is also very high in Guyana and Trinidad and Tobago. In Suriname, the participation is smaller.

Although there are a variety of alternatives to bank deposits, such as the products offered by credit unions, nonbank financial institutions, and mutual funds, they represent a small proportion of household options, although they vary from country to country (Table 10.2). Mutual funds are important in

¹¹ Bank concentration for the Caribbean is above 70 percent, whereas for continental Latin American countries it averages 60 percent.

Table 10.2. Nonbank Financial Institutions in the Caribbean, 2017 (percent)

Variable	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
Mutual fund assets to GDP	n.a.	26.39	n.a.	1.45	n.a.	26.18
Nonbank financial institutions' assets to GDP	0.30	n.a.	8.35	n.a.	n.a.	33.36
Pension fund assets to GDP	n.a.	20.10	7.09	28.04	n.a.	n.a.

Source: World Bank, Global Financial Development database (www.worldbank.org/en/publication/gfdr/data/global-financial-development-database).

Note: n.a.: not available.

Barbados and Trinidad and Tobago, while pension funds are only important in Barbados and Jamaica. Assets in nonbank financial institutions account for a sizable share of total financial assets in Trinidad and Tobago.¹²

Table 10.3 shows aggregate data for the domestic financial sector in Caribbean countries and compares them with three other country groups: advanced economies, represented by member countries of the Organisation for Economic Co-operation and Development (OECD);¹³ countries in Latin America;¹⁴ and the rest of the small economies (ROSE) in the world, a group that is similar to Caribbean countries because the economies are small, their focus is on tourism or commodity exports, and they have a population of less than 3 million (Ruprah, Melgarejo, and Sierra 2014).¹⁵ In Caribbean and all country groupings, commercial banks are the most important institutions in the domestic financial sectors.

Given the importance of banks in the financial systems of Caribbean countries, it is critical to ensure that these institutions are prepared to deal with severe and unforeseen shocks to their financing and trading activities.

¹² This chapter has only documented the ratio of assets with respect to GDP for some of these institutions due to data availability.

¹³ The OECD includes 36 countries: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. The latest update of this list was in September 2019.

¹⁴ Latin America includes 19 countries: Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela.

¹⁵ While the ROSE analyzed in Ruprah, Melgarejo, and Sierra (2014) includes 52 countries, due to data availability the focus in this chapter is on a subset of 16 countries: Bahrain, Belize, Botswana, Cabo Verde, Cyprus, Fiji, Gabon, Guinea-Bissau, Latvia, Malta, Mauritius, Mongolia, Montenegro, Namibia, Qatar, and Slovenia.

Table 10.3. The Domestic Financial Sector in the Caribbean, Latin America, the Organisation for Economic Co-operation and Development, and the Rest of the Small Economies in the World, 2017 (percent)

Variable	Average				Median			
	CCB	LATAM	OECD	ROSE	CCB	LATAM	OECD	ROSE
Deposit money banks' assets to GDP	60.38	50.03	96.49	66.48	52.05	41.45	92.05	60.3
Insurance company assets to GDP	19.24	6.27	34.97	17.33	15.63	4.93	27.26	17.15
Mutual fund assets to GDP	18.01	15.71	37.25	12.88	26.18	4.58	27.07	6.20
Nonbank financial institutions' assets to GDP	14.00	11.42	52.02	36.25	8.35	4.53	24.44	36.25
Pension fund assets to GDP	18.41	26.2	40.84	24.76	20.1	22.36	13.72	13.72

Source: World Bank, Global Financial Development database (www.worldbank.org/en/publication/gfdr/data/global-financial-development-database).

Note: CCB: Caribbean; OECD: Organisation for Economic Co-operation and Development; ROSE: rest of the small economies in the world. When data for 2017 were lacking, the values of the most recent year were used. In the estimate for the OECD average and median mutual funds ratios, values were not included from Singapore (728.84 percent GDP), Ireland (861.06 percent GDP), or Luxembourg (8,204.92 percent GDP). Due to data availability, 16 countries in the ROSE group are considered: Bahrain, Belize, Botswana, Cabo Verde, Cyprus, Fiji, Gabon, Guinea-Bissau, Latvia, Malta, Mauritius, Mongolia, Montenegro, Namibia, Qatar, and Slovenia.

In this sense, this chapter provides a brief comparison of the strengths and limitations of banking regulation between Caribbean countries and the other country groupings. The goal of this exercise is to identify central issues that supervisors in Caribbean countries should be focusing on.

10.2. Caribbean Countries and the New Approach to Financial Regulation

In December 2010, the Basel Committee on Banking Supervision (BCBS) proposed Basel III, a global regulatory framework for more resilient banks and banking systems. Several aspects of Basel III reflect a macroprudential approach to financial regulation that has as its goal to minimize the macroeconomic costs derived from troubles in the financial system. This third installment of the Basel Accords aims to strengthen the requirements from the Basel II standard on banks' minimum capital ratios and introduces liquidity requirements and liquidity monitoring tools. Most Caribbean countries follow some elements of the Basel II recommendations agreed upon in 2004 and have also adopted, or are in the process of adopting, the first pillar of Basel III on minimum capital requirements in their regulations.¹⁶

¹⁶ See Box 10.1 for a summary of the main elements of Basel I, II, and III.

BOX 10.1. THE MAIN ELEMENTS OF BASEL I, II, AND III^a

The Basel Accords refers to the Banking Supervision Accords issued by the Basel Committee on Banking Supervision (BCBS). Published in 1988, Basel I recommended minimum capital requirements for financial institutions with the intention of mitigating the credit risk associated with consumer default losses. To comply, banks had to reserve at least 8 percent of capital relative to risk-weighted assets (RWA). This asset calculation is performed by classifying banks' assets into five risk categories, each one with a different risk weight.

Released in 2004, Basel II uses a “three pillar” model: (1) minimum capital requirements, (2) supervisory review, and (3) market discipline. Pillar 1 required banks to set aside a minimum regulatory capital of 8 percent over RWA to meet losses arising from three major components of risk: credit risk and market risk (e.g., interest rate risk and exchange rate risks), and operational risk (e.g., risk of loss resulting from inadequate or failed internal processes). Pillar 2 provided supervisors with regulatory tools to complement the first pillar. This resulted in a mandate for banks to introduce risk management processes, known as the Internal Capital Adequacy Assessment Process. Pillar 3 defined transparency standards and required the periodic disclosure of information on banks' exposure to different risks and the sufficiency of their own funds.

The 2007–2008 global financial crisis revealed some deficiencies in Basel II recommendations to contain banks' excessive risk-taking. As a result, a new accord, Basel III, strengthened Basel II in terms of the quality of risk management, regulation, and supervision of the banking industry around the world. Basel III was originally released in 2010, then underwent a series of changes before the finalized edition was issued in 2017. Basel III recommends that more capital and higher-quality capital be held by financial institutions. The most salient features of Pillar 1 are the new capital and liquidity requirements and the changes in the measurement of RWA. Furthermore, Basel III enhances and expands Pillars 2 and 3 of Basel II (see section 10.3 in the main text for more details on the pillars of Basel III).

^a For a discussion on the benefits and pitfalls of adopting Basel III in emerging markets and developing economies, see Beck and Rojas-Suarez (2019).

Barbados and Suriname are the only Caribbean countries that have not scheduled the implementation of all or a group of elements of Basel III.

In this context, this chapter aims to identify macroprudential recommendations meant to strengthen financial system oversight in the region. It first describes the new approach to financial regulation and supervision, which considers a macroprudential framework in addition to the traditional microprudential view. There is also a detailed explanation of the two dimensions of macroprudential regulations: the cross-sectional dimension, which derives from common exposures across financial institutions, and the time dimension, which results from the evolution of risk during the economic cycle.

Are the Basel III recommendations and other macroprudential regulations relevant to Caribbean financial systems? Historically, financial systems in the Caribbean countries have been free of contagion from crises originating abroad (Worrell, Cherebin, and Polius-Mounsey 2001), with the notable exception of the 2007–2008 global financial crisis. However, there are several fundamental reasons to consider applying the new international standard in the region. First, the level of international financial integration is high in Caribbean countries, which means that the cross-sectional dimension of the macroprudential approach is relevant. As shown in Table 10.1, foreign banks have very large participation in local financial systems.¹⁷ Since the home supervisors of foreign banks might require that their overseas subsidiaries comply with Basel III requirements, these foreign subsidiaries could find themselves at a regulatory disadvantage compared to domestic banks if the latter are not required to comply with Basel III recommendations.¹⁸ Thus, in cases where national regulation is less strict in terms of minimum capital requirements and other regulations, it would be relevant for national supervisors to consider the harmonization of bank regulations between domestic and foreign banks.

Second, Caribbean countries have experienced credit booms in recent decades, some of which ended in periods of deep contractions in real credit and economic growth. Moreover, some of these booms had a longer duration than those experienced in Latin America, Asia, and Europe. From this standpoint, the time dimension component of the macroprudential approach is relevant, and it is thus appropriate to consider implementing regulatory tools capable of preventing credit booms in Caribbean countries. The countercyclical capital component of Basel III is one such tool.

What are other regulations suitable for Caribbean countries? The new approach to regulation and supervision foresees other financial-institution-based and borrower-based policies such as concentration limits, loan-to-value ratios, and limits on interbank exposures. In recent years, Caribbean countries have been increasing their set of macroprudential regulations.

Thus, despite all the progress in recent years, some Caribbean countries do not have a regulatory framework that would minimize the macroeconomic costs of financial disturbances. This is reflected in the results of the questionnaire on financial regulation and supervision for the Caribbean countries conducted for this chapter. The recommendations are based on

¹⁷ Generally higher than most Latin American countries (Claessens and van Horen 2015).

¹⁸ Adoption of Basel III is a requirement for countries that are members of the Financial Stability Board, which is a G-20+ group of countries.

the responses to the questionnaire by the authorities and on the other topics discussed above.

The next section of this chapter presents the new approach to financial regulation and supervision, which implies complementing the traditional microprudential view of regulation with a macroprudential framework. The chapter then presents some indicators that show the relevance of implementing a macroprudential approach, which includes Basel III capital requirements, especially countercyclical capital requirements, in Caribbean countries. As mentioned above, the high degree of financial internationalization of Caribbean countries and the behavior of their credit cycles support the recommendation to use such an approach. The discussion then turns to the current use of macroprudential regulation and the strengths and weaknesses of the current regulatory/supervisory framework in Caribbean countries. The assessment identifies the issues each Caribbean country must work on to improve its financial regulation and supervision. The chapter closes by putting forth a set of conclusions.

10.3. The New Approach to Financial Regulation and Supervision: Adding Macroprudential Standards to the Microprudential Framework

The 2007-2008 global financial crisis brought to the forefront the need to improve financial regulatory and supervisory frameworks. In particular, compliance with international regulatory standards in developed countries proved inadequate to contain excessive risks taken by individual financial institutions and those generated by the financial system as a whole (Herring and Calomiris 2011). Although the distinction between risks at the individual financial institution level and the financial system level is not new (and certainly well recognized by many emerging market and developing economies, including those in the Caribbean, as will be discussed below), the crisis made it clear that most regulatory frameworks around the world did not adequately incorporate these differences.

Up until the global financial crisis, an adequate regulatory framework was generally defined as one that complied with good microprudential recommendations. Since the crisis, the consensus has moved towards recognizing that, to be effective, regulations also need to incorporate a macroprudential approach. Microprudential regulation is based on the view that banks need to correctly assess the risks they take on their individual balance sheets. The fundamental reason for regulation is that, in the event that banks run into severe difficulties, resources from a deposit insurance fund might need to be used. Most deposit insurance is funded (explicitly

or implicitly) at least partially with public funds. Microprudential regulation aims to minimize the cost to taxpayers arising from the use of deposit insurance. Since the best way to minimize these costs is to insulate banks from adverse shocks, an important component of the regulatory framework focuses on requiring banks to build buffers against expected (provisioning requirements) and unexpected (capital requirements) shocks. Additional components of the microprudential approach call for banks to maintain adequate levels of liquidity (typically measured by the ratio of liquid assets to total assets),¹⁹ adequate levels of profitability (typically measured by ratios such as the return on assets and the return on equity), good accounting standards, and good governance and management.

The example of provisioning requirements illustrates an important pillar of the microprudential approach. Following an established consensus, loan-loss provision requirements are a regulation designed to buffer the expected component of the loan-loss distribution. In contrast, minimum capital requirements serve as a buffer for unexpected losses. Despite the differences, provisioning and capital are quite interrelated. An inadequate classification of loans and a poor system of provisioning will result in inadequate computation of capital. From the perspective of the microprudential approach, an adequate provisioning system requires that loans and other assets be correctly classified according to their risk characteristics and that the higher the riskiness of the asset, the higher the provisioning requirement. Moreover, since several assets (other than loans, such as contingent claims) also have a computable loss distribution, provisioning should not be restricted to loans only. A strong recommendation from sound microprudential regulation is that the assessment of risk needs to be forward-looking in that it should consider the most important factors that determine the expected component of the loan-loss distribution. A provisioning system based only on the number of days a loan is in arrears is not adequate. Thus, to satisfy the requirements of an appropriate provisioning system, it is essential to have accounting practices in place that support a proper classification of loans.

The approach of macroprudential regulation differs from that of microprudential regulation. While different, the macroprudential approach aims to complement rather than substitute good regulation under the microprudential approach. In contrast to microprudential regulation, whose goal is to minimize the costs to taxpayers from banking crisis resolution (and is based on indicators that reflect the financial soundness of the *individual* financial institutions), the goal of macroprudential regulation is to minimize the

¹⁹ As will be discussed below, Basel III modified liquidity requirements.

macro costs of a crisis; that is, to minimize the severe output losses derived from a systemic banking crisis. Under this view, aggregate risk depends on the *collective* behavior of financial institutions and not just on the activities of individual firms. As summarized by Borio (2009), the macroprudential approach has two dimensions: (1) a cross-sectional dimension that derives from common exposures across financial institutions (either because they are directly exposed to the same kind of asset classes or because of linkages and interconnections between institutions) and (2) a time dimension that results from the evolution of risk during the economic cycle (Hanson, Kashyap, and Stein 2011). In other words, in good times, perceptions of risk tend to be low, which induces excessive increases in banks' risk-taking activities, the formation of unsustainable credit expansion (credit booms), and bubbles in asset prices. As the economic cycle peaks and economic activity slows, the process reverses, leading to financial stresses and the potential severe contraction of bank credit (credit busts),²⁰ which reinforces the economic downturn. This is what is known as the procyclicality of bank credit.

Continuing with the example of provisioning requirements, the macroprudential approach adds to the microprudential framework discussed above by calling for provisioning rules to be designed to avoid procyclicality. For that purpose, an automatic rule that triggers an increase in provisioning requirements when credit growth and/or economic growth are assessed to be excessive should be in place.²¹ The rule would allow banks to accumulate loan-loss reserves that can be used in bad times. This methodology helps to prevent credit crunches, since in bad times, when nonperforming loans rise sharply, banks will not be forced to increase regulatory provisioning and will, therefore, be in a better position to continue lending. Implementation of this type of regulation was pioneered by Spain in 2000 under the name "dynamic provisioning" (Saurina 2009). Since then, a number of Latin American countries have followed suit.²² In 2009, following the global financial crisis, the Financial Stability Forum (2009) recommended the establishment of dynamic provisioning.

²⁰ A credit bust (or credit crunch) is a sharp drop in the amount of funds available for loans or a sudden and acute increase in interest rates on loans. It is often triggered by a long cycle of reckless and improper lending. As the uncertainty of loan defaults begins to mount, financial institutions experience an increase in defaults and bad debts. As a consequence, if banks have not accumulated sufficient capital buffers, their capital ratios deteriorate significantly, severely limiting their capacity to provide credit to the real economy.

²¹ The rationale is that excess credit and economic growth reflect the buildup of system-wide risk.

²² See Wezel (2010) for a review of the experience in Uruguay and a comparison with other Latin American countries that have implemented dynamic loan-loss provisions.

10.3.1. *Basel III and the New Approach to Macroprudential Regulation*

Basel III constitutes the most comprehensive set of international standards for financial regulation to deal with the inadequacies of previous regulatory frameworks that became evident during the global financial crisis. While initially proposed by the Basel Committee on Banking Supervision (BCBS 2010), Basel III was the subject of intense debates between policymakers, banks, and academics, and was only finalized in December 2017. Basel III recommendations have been calibrated primarily for advanced economies, although some large emerging market economies are members of the BCBS and the Financial Stability Board (FSB) and are, therefore, committed to implementing the standard.²³ However, although the adoption of these reforms is optional for the large majority of emerging market and developing economies, authorities from many of these countries recognize the benefits from the new standards and are in the process of implementing at least some of them, while many others are considering doing so. Caribbean countries are not an exception, as will be discussed below.

Basel III encompasses recommendations for capital and liquidity requirements (Pillar 1), supervisory frameworks (Pillar 2), and enhancement of market discipline (Pillar 3). The most heated debates regarding the Basel Accords have taken place around Pillar 1 due to (1) the significant changes it proposed for the computation of regulatory capital requirements and (2) its introduction of liquidity requirements. Thus, the discussion in the rest of this section focuses on key elements of Pillar 1. From the perspective of this chapter, a key feature of Pillar 1 in Basel III is that, conceptually, the emphasis of the recommendations is on the macroprudential approach to regulation. This point is first illustrated by discussing capital requirements. What does the emphasis on a macroprudential approach mean for capital requirements under Basel III? It has two central implications: (1) the quality and not just the quantity of capital matters, and (2) capital requirements need to have a time-varying component. Each of these two implications are discussed in turn below.

The Quality (and Not Just the Quantity) of Capital Matters

Basel III defines the “highest-quality capital” as banks’ retained earnings and common shares (common equity), since this is the type of capital that can best absorb losses. Common equity is a better loss-absorber than

²³ Leading emerging markets that are in the process of implementing Basel III include Brazil, China, Mexico, India, and South Africa. As FSB members, these countries are bound to implement financial reforms agreed upon by the G-20 and, in particular, Basel III.

other types of equity such as preferred shares, because holders of the latter have priority over a bank's income—that is, they are paid dividends before common shareholders. As will be shown below, relative to Basel II, Basel III significantly increases requirements of high-quality capital.

The emphasis of Basel III on high-quality capital is fully consistent with the macroprudential approach. To illustrate this point, consider capital requirements under Basel II. There, the recommendation is always for banks to hold a minimum capital-to-RWA ratio of 8 percent. At times of financial stress, when increases in risk lead to deterioration in asset quality and, therefore, a reduction in capital, banks are required to restore their capital ratios. Since the emphasis is on the capital *ratio*, banks have a strong incentive to comply with the regulatory requirements by reducing assets (i.e., reducing credit and/or selling assets) rather than by increasing capital, which is very costly at times of large financial uncertainties (Hanson, Kashyap, and Stein 2011). Thus, complying with Basel II requirements might actually reinforce credit crunches in bad times. This directly conflicts with the objectives of macroprudential regulation.

As stated by Hanson, Kashyap, and Stein (2011), banks' incentives can be modified if the definition of regulatory capital is made sufficiently stringent such that stocks senior to common shares are not included (or are drastically limited). The reasoning is that if part of capital is formed by *senior* stocks, such as preferred stocks, it will be very hard for banks to raise common shares at times of stress, since investors would perceive that the new equity will be used to bail out the position of the more senior preferred investors. Thus, by requiring banks to hold most of their capital in the form of common shares and retained earnings, Basel III makes it relatively easier for banks to raise common shares capital during “bad times.”

Capital Requirements Need to Have a Time-Varying Component

While improvements in the definition of “what constitutes regulatory capital” certainly reduce the probability of credit crunches, such changes cannot fully prevent the eruption of a severe credit contraction and, therefore, cannot be enough to reach the macroprudential goals. This is because in bad times, the increase in overall risk aversion is usually reflected in a significant reduction in the demand for all types of equity.²⁴ Thus, credit crunches might not be avoided even if banks hold high-quality capital in

²⁴ As an illustration, during the 2008–2009 global financial crisis, stock markets around the world, including those in Latin America and the Caribbean, experienced a sharp contraction.

good times. For this reason, the macroprudential approach calls for banks to accumulate additional capital in “good times” (above the minimum consistent with the safe and adequate functioning of banks during “normal times”) that can be used as an absorber of losses during bad times.

To deal with this issue, Basel III includes a countercyclical buffer made up solely of high-quality capital. Banks need to build up this buffer when local authorities deem that credit growth is expanding at a rate leading to an unsustainable increase in systemic risk. Hence, the main objective of the countercyclical buffer is to avoid credit crunches by preventing the formation of credit bubbles.²⁵

10.3.2. *Summary of Capital Requirements under Basel III*

Capital requirements are calculated by dividing regulatory capital by the amount of risk-weighted assets (RWA).²⁶ The major risk components in the calculation of RWA are credit, market, and operational risk. Taken together, assets, weighted by these components, form the RWA. Since different assets have different risk characteristics, a risk weight is assigned to each type of asset.²⁷

²⁵ Drehmann, Borio, and Tsatsaronis (2011) analyze the performance of alternative credit variables that can be used as anchors for setting the level of the countercyclical regulatory capital buffer requirements for banks.

²⁶ To calculate RWA, the assets are first classified into different groups according to the risk that a bank incurs by holding each type of asset. For example, assets such as cash and paper issued by the central bank are considered safe assets, while loans to corporations carry a higher risk of banks incurring losses. The higher the risk of the asset, the higher the risk weight assigned to that asset. The total RWA is the addition of bank assets adjusted by the corresponding risk weight.

²⁷ There are two alternative ways for banks to estimate credit risk and, therefore, RWA. The first is the standardized approach, where country supervisors set the risk weights that banks must assign to their exposures to determine RWA. The second is the internal-ratings-based (IRB) approach, where, under certain conditions, banks can use their own internal models to estimate credit risk and RWA. The IRB approach has two levels: (1) the foundation method (F-IRB), where banks estimate the probability of default for each asset class and supervisors supply other inputs necessary for the estimation of RWA and, thus, capital charges, and (2) the advanced method (A-IRB), where banks with sufficiently developed internal capital allocation processes can supply other inputs as well. The Basel III accord finalized in 2017 introduced important changes in the calculation of RWA and, therefore, in capital requirements relative to the initial version of 2010. For the standardized approach to credit risk, banks must provide a more detailed risk-weighting structure for credit risk and reduce reliance on external credit ratings. For the IRB approach to credit risk, the following changes apply: (1) banks can no longer use the A-IRB approach for exposures to financial institutions and large corporates; (2) no IRB approach can be used for equity exposures; (3) where the IRB approach is retained, minimum levels are applied on the probability of default and for other inputs; and (4) banks' calculation of RWA generated by IRB models cannot, in aggregate, be smaller than 72.5 percent of the RWA estimated using the standardized approach. This is called the output floor.

Table 10.4. Basel III: Summary of Capital Requirements and Buffers (percent)

Capital Requirements and Buffers	Common Equity (after deductions)	Tier 1 Capital	Total Capital
Minimum	4.5	6.0	8.0
Conservation buffer	2.5		
Minimum plus conservation buffer	7.0	8.5	10.5
Countercyclical buffer range ^a	0–2.5		
Total	7–9.5	8.5–11	10.5–13

Source: BCBS (2011).

^a Common equity or other fully loss-absorbing capital.

The incorporation of the macroprudential approach in Basel III capital requirements is reflected in Table 10.4 (reproduced from Annex 1 of BCBS 2011), which summarizes the recommendations under the new standard. There are two tiers of capital. The first tier is formed by common equity and a small list of other assets. The second tier is formed by other assets that qualify as capital but have a lower loss-absorption capacity than those in the first tier, as explained below.

First, relative to Basel I and II, while the minimum capital-to-RWA ratio has remained at 8 percent under Basel III, the accord introduces two new buffers: a conservation buffer and a countercyclical buffer. Capital accumulated under these two new buffers can be drawn down in periods of stress. The conservation buffer has been set to reach 2.5 percent at all times. Consistent with the time-dimension component of the macroprudential approach, the buildup of the countercyclical buffer depends on conditions in the credit markets. The countercyclical buffer has been set as a range between 0 and 2.5 percent of RWA.²⁸

Second, most capital (minimum and buffers) needs to be formed by the highest-quality capital (common shares and retained earnings). Out of the 8 percent minimum capital ratio, 4.5 percent needs to be formed by high-quality capital. This is in contrast to Basel II, where this ratio needed to reach only 2 percent. Only high-quality capital qualifies as capital in both the conservation and countercyclical buffers.

In addition to common shares and retained earnings, Tier 1 capital under Basel III can include a limited number of other instruments that can absorb losses. This differs from Basel II, where the number of instruments that qualified as Tier 1 capital was very large. Also, under Basel III, Tier 1 has been raised to 6 percent, from 4 percent under Basel II.

²⁸ Bank for International Settlements guidelines for authorities regarding the implementation of the countercyclical capital buffer can be found at BIS (2010).

Tier 2 capital under Basel III can reach only 2 percent of RWA, down from 4 percent under Basel II. Most of Tier 2 in Basel III is formed by subordinated debt, with some specific requirements. For example, the debt needs to have a minimum maturity of five years and should not carry special guarantees from the issuer.^{29,30}

Altogether, these changes imply that banks always need to hold 10.5 percent capital-to-RWA (up from 8 percent under Basel II). But the most important change is that out of the 10.5 percent ratio, 7 percent must take the form of common shares plus retained earnings, up from 2 percent under Basel II.

10.3.3. *Liquidity Requirements under Basel III*

As discussed above, the second component of the macroprudential approach deals with cross-sectional issues—namely, “contagion effects” that might result from common exposures across financial institutions. This contagion might occur either because institutions are exposed to the same kind of asset classes or because of the interconnections between institutions.

To consider “contagion effects,” the macroprudential approach recommends that banks maintain large holdings of assets that are not prone to fire sales—that is, assets that do not lose liquidity during times of stress and crisis, when funding becomes scarce and costly. The main concern is that in a crisis, financial firms might be forced to quickly liquidate assets at fire-sale prices, thereby imposing costs on other institutions holding those same assets and on collateral values. If the linkages are strong enough, asset deflation and a credit squeeze would follow.

Thus, just like in the case of capital requirements, the macroprudential approach focuses on the quality and not just the quantity of assets, in this case the quality of liquid assets. Moreover, the recognition that the scarcity of funding during periods of stress might trigger a fire sale of assets and, therefore, contagion, implies that the macroprudential approach emphasizes sources of funding that are stable. An important lesson from the

²⁹ Tier 3 capital, which in Basel II was designed to cover market risk, has been eliminated in Basel III.

³⁰ These requirements are supplemented by a non-risk-based leverage ratio, which is constructed as the ratio of Tier 1 capital (common equity plus other high-absorbing capital) to the bank’s average total consolidated assets (on-balance-sheet and off-balance-sheet exposures). The required ratio is 3 percent for all internationally active banks. In addition, the 2017 revision of Basel III made global systemically important banks subject to higher leverage ratio requirements.

global financial crisis was that emerging market and developing economy financial systems most affected by the crisis were those that relied heavily on wholesale funding, such as issuance of external debt. When the crisis erupted, international liquidity dried up and highly indebted financial institutions faced sharp refinancing problems. A number of countries in Eastern Europe exemplified this experience.

These concerns have been addressed in Basel III through the introduction of two liquidity requirements (BCBS 2010). The first requirement is what is known as the liquidity coverage ratio (LCR), which aims to ensure that banks have the necessary amount of high-quality liquidity assets (HQLA) to face short-term liquidity disruptions. As outlined in the equation below, this ratio requires that the amount of HQLA be sufficient to fund cash outflows for 30 days under a severe-stress scenario.

The Liquidity Coverage Ratio (LCR)

$$\frac{\text{Stock of high-quality liquid assets}}{\text{Net cash outflows over a 30 day period under an acute stress scenario}} > 100\%$$

A central element of the LCR is the definition of high-quality assets. According to the BCBS, assets with the highest quality of liquidity include cash, central bank reserves that can be drawn on during times of stress, and claims on (or guaranteed by) the government, the central bank, the International Monetary Fund (IMF), the Bank for International Settlements (BIS), and multilateral development banks.

Complying with the LCR implies first that there is an appropriate estimation of the withdrawals of cash from banks that might occur following an adverse shock hitting the banking sector (in general) and individual banks. This requires well-conducted stress tests. Second, complying with the LCR requires always holding HQLA to meet the ratio. Regarding these two points, it is important to note that the ability to comply with this ratio depends to an important extent on the degree of development of financial systems. In highly developed financial systems, banks hold a large variety of liquid assets (but not necessary those classified as HQLA). Meeting the LCR might imply, therefore, a stronger effort than that needed in less developed economies where the availability of liquid assets is quite limited and is mostly restricted to those included in the definition of HQLA. On the other hand, it might be easier to conduct the necessary stress tests in advanced economies, where capacity is not as much a constraint as it might be in less developed economies.

The second liquidity requirement under Basel III is termed the net stable funding ratio (NSFR). This ratio aims to increase banks' reliance on stable sources of funding in order to avoid erosion of their liquidity position due to disruptions in more volatile short-term sources of funding. Thus, this ratio limits overreliance on short-term wholesale funding.

The Net Stable Funding Ratio (NSFR)

$$\frac{\text{Available amount of stable funding}}{\text{Required amount of stable funding}} > 100\%$$

Specifically, available stable funding is defined in Basel III as the sum of capital, preferred stock with maturity equal or greater than one year, and transactional deposits. In the case of wholesale funding with maturity of less than one year, stable funding can include only that which is expected to stay with the institution in a situation of stress.

Implementation of the NSFR ratio has not been free of challenges. Since a key objective of the NSFR is to better match maturities of assets and liabilities on banks' balance sheets, implementation of the new liquidity requirements can have a dampening impact on maturity transformation, which is more important for development projects (such as those for infrastructure) that rely on long-term funding. Specifically, for the NSFR, assets with a maturity over one year must be matched with funding with maturity of over one year. While there does not have to be exact matching, there will be a tendency to try to match longer-term assets, such as infrastructure funding, with longer-term funding, which might increase (possibly to prohibitively high levels) the cost of infrastructure funding, especially for banks that do not have easy access to medium- and long-term funding.

10.3.4. Progress in Implementation of Basel III in Advanced Economies and Other Financial Stability Board Member Countries

Every year, the BCBS publishes a document reporting progress on the adoption of Basel III recommendations for FSB members. Table 10.5 summarizes the state of implementation of two key components of Basel III recommendations discussed above: the countercyclical capital buffer and the net stable funding ratio.

Based on the codes ranging from 1 to 4 for each recommendation assigned by the BCBS to assess progress, the straightforward conclusion from Table 10.5 is that FSB members have met deadlines in the implementation of countercyclical capital requirements. In contrast, there are varied results in the implementation of liquidity requirements, as represented by the NSFR, partly because of the issues mentioned above. Overall, while only the cases of FSB members are reviewed here, a large number of countries around the world are moving towards adopting the Basel III requirements.

Section 10.4 addresses the relevance of the macroprudential approach in the Caribbean countries and Section 10.5 discusses Caribbean countries' progress and intentions in implementing the key recommendations of Pillar 1 of Basel III.

Table 10.5. Overview of Implementation: Basel III

Basel Standards	Countercyclical Capital Buffer	Net Stable Funding Ratio (NSFR)
Deadline	January 2016	January 2018
Argentina	4	4
Australia	4	4
Brazil	4	4
Canada	4	3
China	M	4
Hong Kong SAR	4	4
India	4	3
Indonesia	4	4
Japan	4	2
Korea	4	4
Mexico	4	2
Russia	4	4
Saudi Arabia	4	4
Singapore	4	4
South Africa	4	4
Switzerland	4	2
Turkey	4	2
United Nations	4	2
European Union	4	3

Source: BIS (2019b).

Note: The numbers correspond to the BCBS code for assessing progress. 1: a draft regulation for implementing the reform has not been published; 2: the draft regulation has been published; 3: the final rule has been published but has not yet been implemented by banks; 4: the final rule is in force (published and implemented by banks). "M" denotes adoption in process (draft regulation published), that is, the implementation status is mixed.

10.4. The Relevance of the Macroprudential Approach in Caribbean Countries

This section discusses whether the macroprudential approach to regulation outlined in the previous section is relevant in Caribbean countries. First, the focus is on the cross-sectional dimension to assess contagion risks derived from the large participation of foreign banks in Caribbean countries. Second, the credit cycle of the Caribbean countries is examined to determine the relevance of implementing time-varying macroprudential regulations that seek to contain risks over the business cycle.

10.4.1. *International Financial Integration Is High*

Partly resulting from the small size of Caribbean economies, the participation of foreign banks in the region is significant (Table 10.6). These banks are primarily from Canada, the United Kingdom, and the United States, and, as part of the G-20, they are committed to implementing the Basel III recommendations on financial sector reform.³¹ However, in recent years, foreign banks have

Table 10.6. Importance of Foreign Banks in Caribbean Countries (percent)

Country	Number of Banks		Banks Assets	
	Foreign	Domestic ^a	Foreign	Domestic ^a
The Bahamas ^b	57	43	73	27
Barbados	100	—	100	—
Guyana	50	50	40	60
Jamaica	63	37	80	20
Suriname	22	78	17	83
Trinidad and Tobago	75	25	44	56
Caribbean	61	39	59	41
Latin America and the Caribbean	42	58	43	57

Sources: For Caribbean countries, the Caribbean survey conducted in 2019 for this chapter; for Latin America and the Caribbean, the Bank Regulation and Supervision Survey (World Bank 2019) (see Section 10.5.2 for more details on these sources); and Barth, Caprio, and Levine (2013).

Note: The values for the Caribbean and for Latin America and the Caribbean were estimated using the average of the countries in the regions. The numbers for the Caribbean are for 2019. For Latin America and the Caribbean, the numbers are for 2016 for foreign bank assets and for 2013 for the number of banks.

^a Domestic includes domestic commercial banks and government-controlled banks.

^b According to the Central Bank of The Bahamas, there are eight commercial banks, of which two are locally owned. However, the IMF (2019a) reports only seven commercial banks. The IMF excludes one foreign bank with a significant branch presence and considers three domestic-majority-owned banks. The estimates used in this table are from the IMF.

³¹ For example, the Bank of Baroda, which operates in Guyana, is from India, a G-20 country, and follows Basel III.

started to withdraw from the Caribbean partly because of the high cost of compliance to meet new international standards for anti-money laundering and combatting the financing of terrorism, a process known as “derisking.”³² The exit of some banks from G-20 countries and the entrance of non-G-20 banks is changing the composition of foreign banks, creating new challenges for preserving financial stability in the Caribbean.³³ Some of these non-G-20 banks already have subsidiaries and/or branches and are increasing their participation in the banking system in particular Caribbean countries, but the rest are new players, mostly originally from Latin American countries.

In this context, important issues arise in cases where there are significant differences in regulatory and supervisory frameworks between the home- and host-country supervisors of commercial banks operating in the Caribbean. The following sections deal with these issues when the home countries are members and non-members of the G-20.

Regulatory Requirements for G-20 Foreign Banks

G-20 regulators of parent banks with affiliates operating in Caribbean countries require their overseas subsidiaries to comply with Basel III requirements. This is because the supervisors of global banks based in advanced economies require that regulations be applied and enforced on a consolidated basis; that is, obligations of compliance of a global bank with Basel III requirements apply to the entire banking group, including its foreign affiliates. This would imply that foreign banks from advanced economies operating in Caribbean countries must comply not only with the regulation and supervision requirements in their home countries but also with the requirements of the local supervisor in a Caribbean country. This might reduce the incentives of these banks to maintain affiliates in Caribbean countries. As will be discussed in Section 10.5, most Caribbean countries comply with either Basel I or II standards and most are only in the process of considering the application of Basel III. This might lead to major differences in performance between domestic and foreign banks, though

³² See Wright (2016), Wright and Kellman (2017), Vasquez (2017), Wright, Kellman, and Kallicharan (2018), Grenade and Wright (2018), and Wright and Asher (2019) for more details on the derisking process within the Caribbean context.

³³ In December 2018, the Bank of Nova Scotia (“Scotiabank”) announced its intention to sell its banking assets in nine Caribbean countries to Republic Financial Holdings Ltd., and its life insurance operations in Jamaica and Trinidad and Tobago to Sagicor Financial Corporation, a company from Jamaica. Also, in November 2019, the Canadian Imperial Bank of Commerce agreed to sell two-thirds of its Barbados banking unit to the Colombian company GNB Financial Group Ltd. to reduce its exposure, since it has lost US\$1.6 billion in value since 2006.

the effects would not be perceived during “good times,” when the proportion of non-performing loans is very low and the value of shares in the banking sector are high (and rising). During such times it would therefore not be a problem to comply with regulatory requirements more stringent than those required by the regulations in Caribbean countries.

However, during times of financial difficulty, such as those produced by an adverse external shock, the effects of the regulatory differences would emerge. On the one hand, to the extent that foreign banks in Caribbean countries must satisfy higher regulatory requirements than domestic banks, foreign banks would find themselves at a disadvantage compared to domestic banks.³⁴ On the other hand, precisely because of being subject to stricter regulation, foreign banks might find themselves in a stronger position than domestic banks to face adverse shocks. In either case, the situation would create distortions in competitiveness between domestic and foreign banks. Therefore, it is relevant to consider harmonizing banking regulations in Caribbean countries with those in the home countries of foreign banks operating in the region. This harmonization needs to be done in a proportional way, taking into account local regulations, institutional arrangements, and the characteristics of the local financial sector.

Regulatory Requirements for Non-G-20 Foreign Banks

In the case of non-G-20 foreign banks, it is possible that the banking regulatory and supervisory frameworks of home countries may be less strict than regulation and supervision in the host countries. The move toward increased participation of banks from non-advanced economies is important in supporting the financing needs of those countries where the retrenchment of activities of banks based in advanced economies has been most pronounced. However, this expansion can be effective only if these lenders are strong institutions. If, instead, problems arise among these lenders from non-advanced economies, the result could be severe contagion effects that compromise the stability of the local financial system.

Despite the bailout of Colonial Life Insurance Company (CLICO) in 2009,³⁵ today there remains a large presence of banks and other financial services

³⁴ Note that this discussion refers to the overall Basel III framework and not specifically to capital requirements. As will be discussed in Section 10.5, actual capital ratios held by banks in Caribbean countries are generally quite high.

³⁵ In 2009, CLICO, an insurance company that was the largest privately held conglomerate in Trinidad and Tobago and one of the largest privately held corporations in the entire Caribbean, received a government bailout after the company encountered a major liquidity crisis.

companies from Trinidad and Tobago in the Caribbean region. One example is the Republic Bank, which has subsidiaries in Barbados, Guyana, and Suriname. During 2018, there was a rise in acquisition announcements in the Caribbean as several financial institutions, mostly from Trinidad and Tobago, Jamaica, and lately Colombia, sought to expand their regional footprint and diversify their income streams. While such acquisitions can help build synergies and increase efficiency and profitability, systemic cross-border financial groups also present certain challenges for regulators, such as consolidating supervision, monitoring interconnectedness, and managing contagion risks. Recent discussions surrounding regional acquisitions involving several companies listed on the domestic stock exchange in Trinidad and Tobago have increased the focus on systemic risks (Central Bank of Trinidad and Tobago 2019).

Given the increasing participation of non-G-20 banks in Caribbean banking systems, it is crucial to ensure adequately consolidated supervision to manage the contagion risks associated with the cross-border operations of international banks.

Among non-G-20 economies with bank affiliates operating in Caribbean countries, Colombia, Jamaica, and Trinidad and Tobago have consolidated supervision in place and are on track to implement the three pillars of Basel III between 2020 and 2024. The application of these regulations would help strengthen the financial stability of their national banks and their subsidiaries. By applying the Basel III framework, parent entities within a banking group in these countries will ensure that they capture the risks of the entire banking group.³⁶

10.4.2. *Characterization of Credit Booms in the Caribbean*

This section analyzes the characteristics of credit cycles in Caribbean countries for the purpose of assessing whether supervisory authorities in the region should implement countercyclical macroprudential regulations, such as the Basel III countercyclical capital requirements, or countercyclical provisioning. As explained in the previous section, these regulations aim to minimize the macroeconomic costs of financial disturbances by preventing the eruption of credit booms in good times and credit busts in bad times.

³⁶ The Caribbean countries are in different positions with respect to implementation of the Basel III pillars. For example, The Bahamas, Guyana, and Trinidad and Tobago follow the Basel II agreements and are the only Caribbean countries that have implemented at least part of the Basel III capital requirements. The other pillars are scheduled to be implemented between 2020 and 2022. Barbados and Suriname follow the Basel II framework and have not yet set a schedule for implementation of Basel III.

To characterize the credit cycle in each of the Caribbean countries, we use the “threshold method” proposed by Mendoza and Terrones (2008). This method permits identifying periods of credit booms by separating real credit behavior into its cyclical and trend components using the Hodrick-Prescott filter. A credit boom is defined as an episode when real credit exceeds its long-run trend by more than a given threshold.³⁷ After identifying a credit boom, its duration can be estimated as the time interval during which real credit exceeded its long-run trend. The credit booms can be decomposed into two phases:

- *Beginning of the boom to its peak:* Also known as the upswing phase of the credit boom, this phase quantifies the time between the beginning of the boom and the date it reaches its peak. The beginning of the boom starts when the cyclical component of credit exceeds its long-run trend. As described by Mendoza and Terrones (2008), the peak occurs on the date within the set of contiguous dates that satisfies the credit boom condition and that shows the largest deviation from the long-run trend.
- *Peak and return to trend:* The downswing phase of the credit boom quantifies the time between the date the boom reaches its peak and the date it returns to the long-run trend.

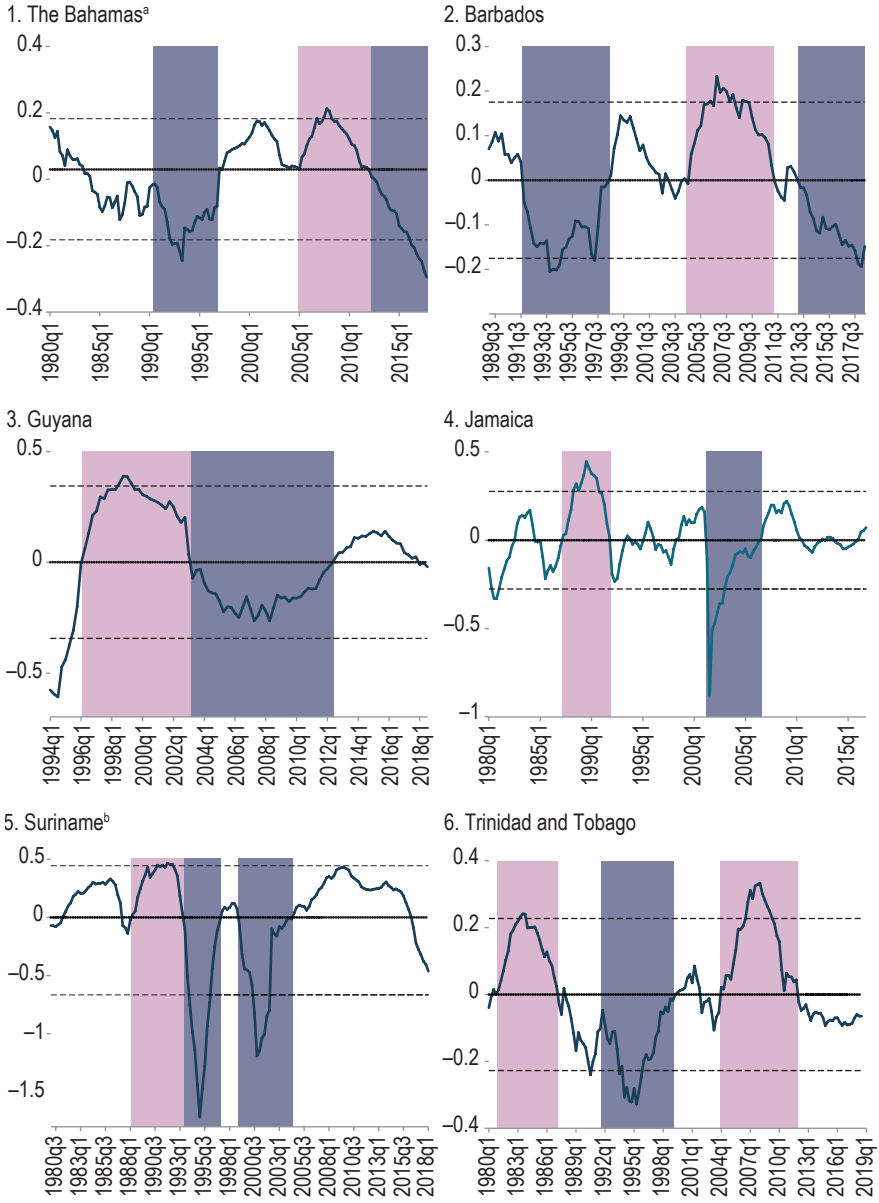
Credit busts are the opposite of credit booms. In the case of a bust, credit to the private sector grows less than during a typical credit cycle contraction and the trough occurs on the date when the largest negative deviation from the long-run trend occurs.

Panels 1–6 in Figure 10.1 show the dynamics of credit cycles in each of the Caribbean countries over the last 40 years. The analysis uses quarterly data on credit from the financial sector to the private non-financial sector from the IMF’s International Financial Statistics (IFS) for the period 1980–2018. The measure of credit includes the sum of claims on the private sector by deposit money banks (IFS line 22d), plus, whenever available for the entire sample period for a given country, claims on the private sector by other financial institutions (IFS line 42d).³⁸ Real credit is estimated as the

³⁷ The threshold used by Mendoza and Terrones (2008) was set at 1.75 times the standard deviation of the cyclical component for all countries included in their analysis. However, different thresholds have been used in more recent studies. This chapter uses a threshold of 1.5 times the standard deviation of the cyclical component in order to be consistent with an International Monetary Fund report that focuses exclusively on Latin American countries (IMF 2011).

³⁸ For Barbados, IFS data end in 2010:Q1. Instead, data from the Central Bank of Barbados that begin in 1989:Q1 are used.

Figure 10.1. Credit Cycles in the Caribbean, by Country



Sources: Prepared by the authors based on International Monetary Fund, International Financial Statistics (<https://data.imf.org/?sk=4C514D48-B6BA-49ED-8AB9-52B0C1A0179B>); and on data from the Central Bank of Barbados.

Note: Continuous lines indicate the cyclical component of credit, with values greater than zero indicating that real credit is higher than the trend. Horizontal dotted lines show the threshold values for each country. Lighter shadow areas denote credit boom episodes and darker shadow areas denote credit bust episodes.

^a The methodology allows for changing the criteria to identify the start date using a threshold above zero (Mendoza and Terrones 2008, 6).

^b A threshold of one standard deviation of the cyclical component is used (Mendoza and Terrones 2008, 6).

average of two contiguous end-of-year observations of nominal credit per capita deflated by their corresponding end-of-year consumer price index.

During the period under study, seven credit booms have been identified: one each in The Bahamas, Barbados, Guyana, Suriname, and Jamaica, and two in Trinidad and Tobago. On average, the credit booms in Caribbean countries lasted around 26 quarters (six years and six months), more than twice the average length of credit booms in Latin American countries.

For each country, Figure 10.2 shows the duration of the boom and bust phases. Trinidad and Tobago has experienced the longest credit boom phase (32 quarters or 8 years), while Jamaica (19 quarters) and Suriname (21 quarters) have had the shortest credit boom phases.

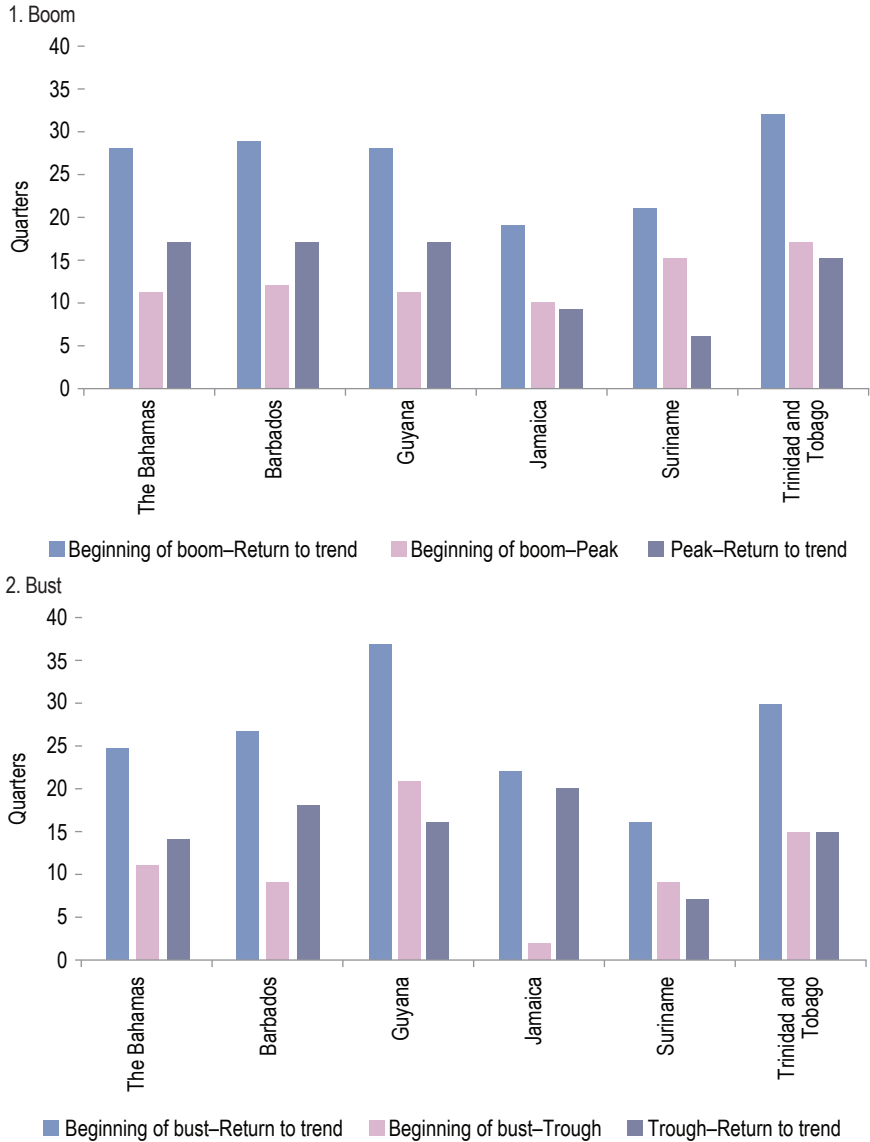
In Caribbean countries, credit busts have had the same (regional) average duration (26 quarters) as credit booms. Guyana has experienced the longest credit bust (37 quarters), while Suriname (16 quarters) has had the shortest.

Results suggest that Caribbean countries can be grouped according to the timing of their credit booms and busts (Table 10.7). For example, both The Bahamas and Barbados experienced a credit boom that lasted between 28 and 29 quarters and started around 2004–2005. Similarly, both countries had two credit busts in the early 1990s and another one that started around 2012–2013 that had not finished at the time of this writing. The timing of one of the credit booms (and the bust) in Trinidad and Tobago is also similar to those of The Bahamas and Barbados. These three countries have the highest GDP per capita (in 2011 PPP dollars) among the Caribbean countries.³⁹ Because of this similarity, they are aggregated here as the Caribbean high-income group, using the World Bank's classification of countries according to income per capita as of June 2019. In terms of economic structure, on the other hand, while The Bahamas and Barbados are both tourism-dependent countries with an important offshore banking sector, Trinidad and Tobago is mostly dependent on the export of raw materials.

Two other countries that share similar dates in their credit booms and busts are Jamaica and Suriname (Table 10.7). They are referred to here as the Caribbean upper-middle-income group. The similarities in the dates are not as clear as those for the high-income group, but there is some overlapping in the period when their credit booms and busts occurred (end of the 1980s for the booms and end of the 1990s and beginning of the 2000s for the busts). There are also similarities in the duration between the start and end time of their credit booms and busts.

³⁹ The references to GDP in this section are expressed in constant international dollars per capita (in 2011 PPP dollars).

Figure 10.2. Characterization of the Credit Cycles in the Caribbean (quarters)



Sources: Prepared by the authors based on International Monetary Fund, International Financial Statistics (<https://data.imf.org/?sk=4C514D48-B6BA-49ED-8AB9-52B0C1A0179B>); and on data from the Central Bank of Barbados.

Note: For each country, the second bar shows the average duration between the beginning of the boom (bust) and the peak (trough). The third bar shows the duration between the peak (bust) and the end of the return to the trend. The first bar represents the total of the second and third bars. The sample of the countries varies due to the availability of data: The Bahamas (1980:Q1-2017:Q4), Barbados (1989:Q1-2018:Q2), Guyana (1994:Q1-2018:Q3), Jamaica (1980:Q1-2016:Q4), Suriname (1980:Q1-2018:Q1), and Trinidad and Tobago (1980:Q1-2019:Q3). The characterization of the credit boom in Suriname considers an upper limit threshold of one standard deviation from the cyclical component. The other results consider 1.5 standard deviations from the cyclical component. The figure includes the average duration of the two booms in Trinidad and Tobago.

Table 10.7. Dates of Credit Booms and Credit Busts in the Caribbean

Country	Credit Boom			Duration (quarters)
	Beginning	Peak	End	
The Bahamas	2005:Q1	2007:Q4	2012:Q1	28
Barbados	2004:Q3	2006:Q4	2011:Q1	29
Guyana	1996:Q2	1998:Q4	2003:Q1	28
Jamaica	1987:Q2	1989:Q3	1991:Q4	19
Suriname	1988:Q2	1991:Q4	1993:Q2	21
Trinidad and Tobago	2004:Q1	2008:Q1	2011:Q4	32
	1981:Q1	1983:Q3	1987:Q1	25
Average				26
Median				28
Country	Credit Bust			Duration (quarters)
	Beginning	Trough	End	
The Bahamas	1990:Q3	1993:Q2	1996:Q4	25
	2012:Q1	n.a.	n.a.	n.a.
Barbados	1991:Q4	1993:Q4	1998:Q2	27
	2013:Q2	2018:Q1	n.a.	n.a.
Guyana	2003:Q2	2008:Q2	2012:Q2	37
Jamaica	2001:Q2	2001:Q3	2006:Q3	22
Suriname	1993:Q2	1995:Q1	1997:Q1	16
	1999:Q1	2000:Q4	2004:Q2	22
Trinidad and Tobago	1991:Q4	1995:Q2	1999:Q1	30
Average				26
Median				25

Sources: Prepared by the authors based on International Monetary Fund, International Financial Statistics (<https://data.imf.org/?sk=4C514D48-B6BA-49ED-8AB9-52B0C1A0179B>); and on data from the Central Bank of Barbados.

Note: The sample of the countries varies due to the availability of data: The Bahamas (1980:Q1–2017:Q4), Barbados (1989:Q1–2018:Q2), Guyana (1994:Q1–2018:Q3), Jamaica (1980:Q1–2016:Q4), Suriname (1980:Q1–2018:Q1), and Trinidad and Tobago (1980:Q1–2019:Q3). n.a.: not available.

Although the credit cycles coincide, these countries are structurally different: Jamaica is a tourism-dependent country with a relatively large and diversified economy, while Suriname has an economy mostly driven by the extractive industry, which makes the economy highly vulnerable to mineral price volatility.

Interestingly, the dates of Guyana's credit cycle do not match those of the other Caribbean groups. Guyana is an upper-middle-income country with a wide range of natural resources that are the main drivers of the economy. Guyana's credit boom in the mid-1990s was related to idiosyncratic economic policies.

How do the credit booms in Caribbean countries compare with those in other regions? In general, credit booms in Caribbean countries last longer than those in other country groups. Table 10.8 shows credit cycles in the emerging markets of Latin America, Asia, and Europe, as discussed in Rojas-Suarez (2019).⁴⁰

Average GDP per capita of the Caribbean upper-middle-income countries (US\$10,923) is below that of the emerging Latin American countries (US\$16,615). However, the average duration of credit booms in the former countries is about two times the duration of those in the latter. Average GDP per capita of the Caribbean high-income group (US\$24,808) is higher than that of Emerging Asia (US\$18,056) and similar to that of Emerging Europe (US\$27,718), but the average duration of their credit booms is different: booms in Caribbean high-income countries lasted almost 2.5 times longer than those in the Emerging Asia and Europe countries (Table 10.8).

Caribbean upper-middle-income countries have experienced shorter credit booms and busts periods than Caribbean high-income countries. Moreover, both Caribbean groups have had significantly longer credit booms and busts compared to other emerging markets also classified as upper-middle-income or high-income countries (Table 10.8).

A plausible explanation is that the economic cycles of the English-speaking Caribbean countries⁴¹ are highly correlated with the U.S. economic cycle. Following the 2007–2008 global financial crisis, the English-speaking Caribbean countries experienced a stronger growth contraction in

⁴⁰ Emerging markets have made impressive gains in industrial and economic growth and may be suppliers of labor or resources to other more advanced nations. From the available ratings, Jamaica and Trinidad and Tobago are considered frontier economies, which are too small, risky, or illiquid to be generally considered emerging markets. There is no available information for the rest of the Caribbean countries. This is why the new World Bank list of economies based on an income classification is used here: high income (HI), upper-middle income (UMI), lower-middle income (LMI), and low income (LI). This list is used even though the aggregation of the emerging markets by region does not match perfectly with the World Bank classification of countries by income groups. That is, Emerging Europe is classified overall as high-income, while Emerging Asia is classified overall as upper-middle-income, even though in both regions not all emerging countries correspond to those income classifications. Emerging Asia includes China (UMI), India (LMI), Indonesia (LMI), Korea (HI), Malaysia (UMI), Philippines (LMI), and Thailand (UMI). Emerging Europe includes Bulgaria (UMI), Czech Republic (HI), Estonia (HI), Hungary (HI), Latvia (HI), Lithuania (HI), Poland (HI), and Romania (UMI).

⁴¹ English is the primary language of all of the Caribbean countries analyzed in this chapter except Suriname.

Table 10.8. Characterization of the Credit Cycle in the Caribbean, 1980–2018 (duration by quarters)

	Credit Boom			
	Beginning of boom–Return to trend	Upswing	Downturn	Peak–Trough
		Beginning of boom–Peak	Peak–Return to trend	
The Bahamas	28	11	17	40
Barbados	29	12	17	43
Guyana	28	11	17	39
Jamaica	19	10	9	49
Suriname ^a	21	15	6	17
Trinidad and Tobago	32	17	15	35
Caribbean	26	13	14	37
Emerging Latin America^b	12	7	4	11
Emerging Asia^b	11	5	6	15
Emerging Europe^b	12	6	6	11
	Credit Bust			
	Beginning of bust –Return to trend	Downturn	Upswing	Trough–Peak
		Beginning of bust –Trough	Trough–Return to trend	
The Bahamas	25	11	14	30
Barbados	27	9	18	25
Guyana	37	21	16	31
Jamaica	22	2	20	31
Suriname	16	9	7	35
Trinidad and Tobago	30	15	15	52
Caribbean	26	11	15	34

Sources: Prepared by the authors based on International Monetary Fund, International Financial Statistics (<https://data.imf.org/?sk=4C514D48-B6BA-49ED-8AB9-52B0C1A0179B>); and on data from the Central Bank of Barbados.

Note: The average duration of busts for Latin America, Asia, and Europe is not included due to lack of information.

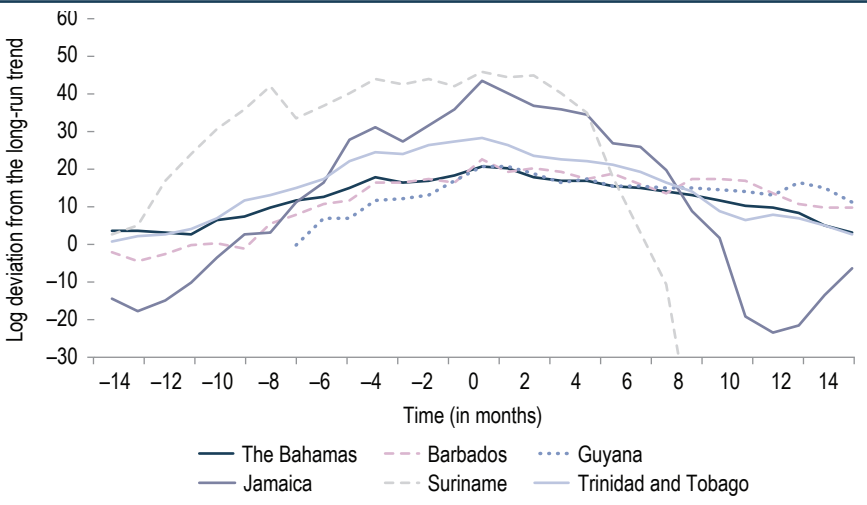
^a The characterization of the credit boom in Suriname considers an upper-limit threshold of one standard deviation from the trend. The other results consider 1.5 standard deviations from the trend.

^b See Rojas-Suarez (2019).

2009 than the rest of Latin America,⁴² and their recovery since has been sluggish. One explanation is attributable to the misalignment of the economic cycles of these countries with those of the large emerging market economies that drove the global recovery, such as China, India, and Brazil (Kouame and Reyes 2011).

⁴² An interesting and complementary view on these economies can be found in OECD et al. (2019).

Figure 10.3. Average Deviation from the Long-Run Trend in Credit Booms (in logarithms and multiplied by 100)



Sources: Prepared by the authors based on International Monetary Fund, International Financial Statistics (<https://data.imf.org/?sk=4C514D48-B6BA-49ED-8AB9-52B0C1A0179B>); and on data from the Central Bank of Barbados.

Note: Time “zero” denotes the peak of the boom. Suriname’s downswing phase reached a value of -148 percent below the trend. The lower bound was cut for display purposes.

The international evidence presented in Mendoza and Terrones (2008) shows that, at the peak of the credit booms, the average upswing phase of the booms in emerging economies was almost 35 percent above the long-run trend and twice that in industrial countries. A comparison of the upswing phases within the Caribbean countries shows that, at the peak of the booms, the cyclical component of the high-income group was 24.4 percent above the long-run trend, while in the upper-middle-income group it was 45.6 percent above the trend (Figure 10.3). Also, the former group presented a higher deviation from the trend than the emerging markets. Despite Caribbean countries being identified as upper-middle-income and high-income countries, their credit booms are longer and deeper than those in other emerging economies.

From this standpoint, it is thus relevant to consider implementing regulatory tools in Caribbean countries capable of preventing credit booms. The Basel III countercyclical capital component is one such tool.

In addition to this tool, what other macroprudential policies are adequate to regulate the Caribbean banking sector? To answer this question, Section 10.5 assesses the use of macroprudential policies in the Caribbean countries. The discussions in that section will also serve to assess strengths and remaining weakness in the regulatory frameworks of Caribbean countries, and to advance policy recommendations.

10.5. Use of the New Approach to Financial Regulation in the Caribbean

As described earlier in this chapter, effective regulation requires that regulatory frameworks include a macroprudential approach. Basel III standards reflect various aspects of that approach to financial regulation. For instance, under Basel III, capital requirements for banks have been strengthened. In addition to minimum capital requirements, Basel III includes a capital conservation buffer, a countercyclical capital buffer, and a leverage ratio, and liquidity requirements are also part of the set of recommendations. Basel III also recommends that the world's largest and most active banks hold more high-quality capital, which is consistent with the cross-section approach to systemic risk.

This section is divided in two parts: (1) an overview of the new approach to financial regulation in the Caribbean and (2) an assessment of the current regulatory/supervisory framework in Caribbean countries. The first part shows the use of macroprudential policies in Caribbean countries over time. It also discusses the tools that have been implemented in recent years in Latin America, ROSE, and OECD countries. The second part analyzes the progress of the Caribbean countries and their country comparators in implementing the Basel III recommendations on capital and liquidity requirements (Pillar 1) and the Basel II recommendations on supervisory frameworks (Pillar 2) and enhancement of market discipline (Pillar 3).⁴³

The reader might ask, why study Pillar 3 of the Basel framework if it does not come strictly from government supervision? Pillar 3 is included in the analysis because it complements capital and liquidity requirements and the supervisory review process by developing a set of disclosure requirements that will allow market participants to better assess the performance of financial institutions. Assessments by external private parties such as investors, analysts, customers, and rating agencies create an incentive for banks to develop and maintain adequate corporate governance. This section also includes recommendations derived from the analysis presented above to improve the regulatory and supervisory framework in the Caribbean countries.

10.5.1. *An Overview of the New Approach in Caribbean Countries*

Recurrent deep banking crises and the high resolution costs involved have led financial sector regulators to include macroprudential policies in their regulatory toolkit. The use of these policies has increased over the years in

⁴³ See Section 10.3 for an explanation of why the focus here is on some key elements of Basel III.

some Caribbean countries, according to an updated database constructed by Cerutti, Claessens, and Laeven (2018).⁴⁴ A limitation of these data is the lack of information for Barbados and Suriname. Despite the database only having information for four Caribbean countries, however, it is used here because it contains a detailed description of the macroprudential policies and allows for country comparisons. The database also includes information that allows for comparing the Caribbean with OECD and Latin American countries as well as with ROSE, a group with direct comparators to the Caribbean group.

The updated database available in Cerutti, Claessens, and Laeven (2018) covers 12 specific instruments: the general countercyclical capital buffer/requirement (CTC); leverage ratio for banks (LEV); time-varying/dynamic loan-loss provisioning (DP); debt-to-income ratio (DTI); limits on domestic currency loans (CG); limits on foreign currency loans (FC); levy/tax on financial institutions (TAX); capital surcharges on systemically important financial institutions (SIFI); limits on interbank exposures (INTER); concentration limits (CONC); a subset of loan-to-value (LTV) measures used as a strict cap on new loans (LTV_CAP); and a subset of reserve requirement measures that impose a specific wedge on foreign currency deposits or are adjusted countercyclically (RR_REV).

The authors aggregated these measures along two definitions: borrower-based policies, which operate by limiting borrowing relative to household incomes and/or property values (O'Brien and Ryan 2017) and are generally negatively related to credit growth (Barth, Caprio, and Levine 2013); and financial-institutions-based policies, which are also associated with lower credit growth but are especially effective when growth rates of credit are very high, and ineffective when the rates are low.

While advanced countries use relatively more borrower-based policies, such as loan-to-value ratio caps (LTV_CAP) and debt-to-income (DTI) ratios, emerging economies use more financial-institutions-based policies, such as limits on leverage and dynamic provisioning (DP).

Among Caribbean countries, there is greater use of financial-institutions-based policies compared to borrower-based policies (Table 10.9). The only country using borrower-based policies is The Bahamas. According to IMF (2019a), given the high capital ratios of most banks in The Bahamas, it is recommended to use mortgage lending standards based on loan-to-value (LTV) and debt-to-income (DTI) ratios because those are the most effective

⁴⁴ For more information on the method used to construct the original database, see Cerutti, Claessens, and Laeven (2017).

ways of implementing countercyclical measures and increasing the resilience of (mortgage) borrowers to adverse events, including hurricanes.

Among policies, those used by at least one country are concentration limits, debt-to-income ratios, limits on interbank exposures, leverage ratios, loan-to-value ratios (as strict caps on new loans), capital on systemically important financial institutions, and taxes on financial institutions.

For every country and year, a macroprudential index (MPI) is created that is simply the sum of the scores on all 12 policies. For example, according to Table 10.9, for Jamaica in 2017 the value of the MPI equals 2. A prominent case is Trinidad and Tobago, which increased its MPI from 2 to 4 during the global financial crisis and has the highest MPI score among the Caribbean countries (5 by 2017) (panel 1 in Figure 10.4). The Bahamas has the second highest MPI score among the Caribbean countries, followed by Jamaica. Despite the overall increased use of macroprudential policies in recent years, not all Caribbean countries have implemented them. For example, Guyana has a historical MPI score of zero, which implies that over the years the country has never used a macroprudential policy.

When compared to the other country groups, some Caribbean countries can be seen to have made significant progress in the use of macroprudential tools. For instance, in 2017, Trinidad and Tobago exceeded the MPI of the OECD countries and, together with The Bahamas, managed to overcome the MPI of Latin American countries. Figure 10.4 also shows that the most widespread use of macroprudential tools in recent years has been in OECD and Latin American countries.

Table 10.9. Macroprudential Policies in Caribbean Countries, 2017

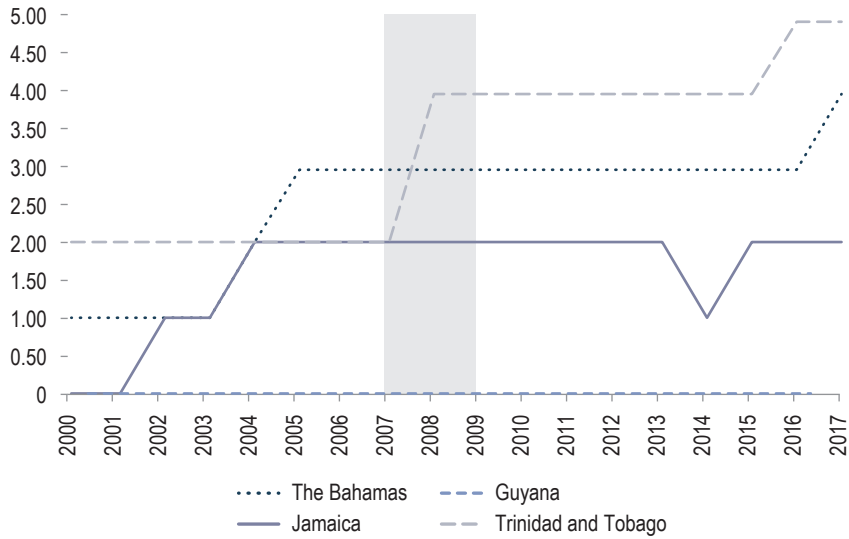
	Borrower-Based Policies			Financial-Institutions-Based Policies										
	DTI	LTV_CAP	Total	CG	CONC	CTC	FC	DP	INTER	LEV	RR_REV	SIFI	TAX	Total
The Bahamas	1	1	2	0	1	0	0	0	0	1	0	0	0	2
Guyana	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jamaica	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Trinidad and Tobago	0	0	0	0	1	0	0	0	1	1	0	1	1	5

Sources: Cerutti, Claessens, and Laeven (2018) and authors' calculations.

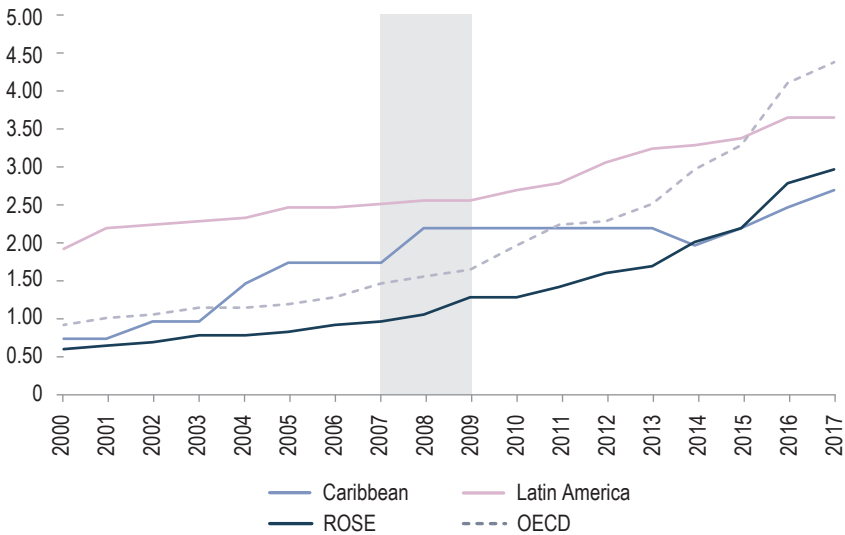
Note: Each variable has a value of 1 if the country has implemented that policy, and 0 otherwise. CG: limits on domestic currency loans; CONC: concentration limits; CTC: general countercyclical capital buffer/requirement; DP: time-varying/dynamic loan-loss provisioning; DTI: debt-to-income ratio; FC: limits on foreign currency loans; INTER: limits on interbank exposures; LEV: leverage ratio for banks; LTV_CAP: loan-to-value ratio caps; RR_REV: countercyclical reserve requirements; SIFI: capital on systemically important financial institutions; TAX: taxes on financial institutions.

Figure 10.4. Macroprudential Policy Index (MPI)

1. Caribbean Countries



2. Country Groups



Sources: Cerutti, Claessens, and Laeven (2018) and authors' calculations.

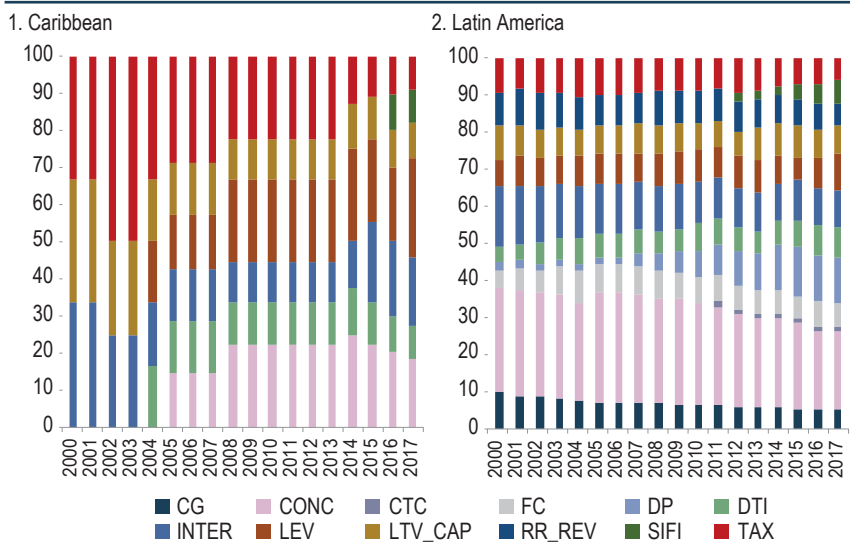
Note: The macroprudential index (MPI) is the sum of a country's scores on all 12 policies displayed in Table 10.9. OECD: Organisation for Economic Co-operation and Development; ROSE: rest of the small economies in the world. Only 38 countries in the ROSE group are considered due to lack of information: Bahrain, Belize, Bhutan, Botswana, Brunei Darussalam, Cabo Verde, Comoros, Cyprus, Democratic Republic of Timor-Leste, Djibouti, Equatorial Guinea, Estonia, Fiji, FYR Macedonia, Gabon, Guinea-Bissau, Iceland, Kiribati, Latvia, Lesotho, Luxembourg, Maldives, Malta, Mauritius, Mongolia, Montenegro, Namibia, Qatar, Samoa, São Tomé and Príncipe, Seychelles, Slovenia, Solomon Islands, Swaziland, The Gambia, Tonga, Tuvalu, and Vanuatu.

Figure 10.5 shows that some macroprudential tools—concentration limits, limits on interbank exposures, and the leverage ratio for banks—are used by all country groupings. Unlike Caribbean countries, the OECD stands out in its usage of certain borrower-based tools such as the loan-to-value ratio caps, perhaps due to the concerns among these countries about housing-sector-related vulnerabilities, which are typically larger as mortgage markets are more developed (Cerutti, Claessens, and Laeven 2018). Latin America uses dynamic provisioning more than any other country grouping, perhaps due to concerns about the large volatility prevalent in local financial systems.

10.5.2. Assessing the Current Regulatory/Supervisory Framework in Caribbean Countries

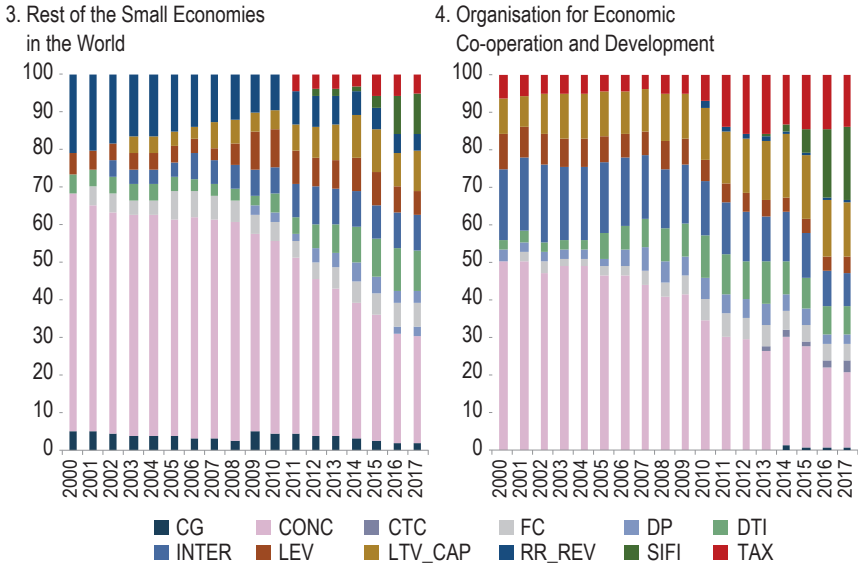
This section assesses the banking regulatory and supervisory practices in Caribbean countries and compares them with the practices of other country groupings (Latin America, OECD, and ROSE). The main contribution is the creation of a novel database and indicators for Caribbean countries that aims to reflect adherence to some of the best practices recommended by standard-setting bodies, particularly the Basel Committee on Banking Supervision through the Basel III framework. This exercise follows the methodology used in Barth, Caprio, and Levine

Figure 10.5. The Relative Use of Macroprudential Tools over Time in Emerging Markets (percent)



(continued on next page)

Figure 10.5. The Relative Use of Macroprudential Tools over Time in Emerging Markets (percent) (continued)



Sources: Cerutti, Claessens, and Laeven (2018) and authors' calculations.

Note: See note on Figure 10.4 for the composition of the ROSE group. CG: limits on domestic currency loans; CONC: concentration limits; CTC: general countercyclical capital buffer/requirement; DP: time-varying/dynamic loan-loss provisioning; DTI: debt-to-income ratio; FC: limits on foreign currency loans; INTER: limits on interbank exposures; LEV: leverage ratio for banks; LTV_CAP: loan-to-value ratio caps; RR_REV: countercyclical reserve requirements; SIFI: capital on systemically important financial institutions; TAX: taxes on financial institutions.

(2013),⁴⁵ who constructed a database using the Bank Regulation and Supervision Survey (BRSS) (World Bank 2019). That database was then used to create indicators about the bank regulation and supervision policies in 180 economies between 1999 and 2011–2012.

The latest version of the BRSS, published in 2019, covers the period 2011–2016 and only includes a few Caribbean countries.⁴⁶ Therefore, for this chapter we constructed a new survey, specific to Caribbean countries, which will be referred to as the Caribbean survey. The objective of the survey was to gather information on banking supervision and regulation from the authorities of the six Caribbean countries analyzed here. Completed in 2019, the survey contains the most up-to-date information for these countries.

The questions in the Caribbean survey were taken from the 2019 BRSS. This allowed for creating a database of variables and indicators for

⁴⁵ The analysis in this section is based on the methodology presented in Barth, Caprio, and Levine (2006).

⁴⁶ The BRSS survey only included Guyana, Suriname, and Trinidad and Tobago.

Caribbean countries that could be compared with those for Latin America, OECD, and ROSE (which were based on the responses to the 2019 BRSS). Despite the difference in the periods covered by the BRSS and Caribbean survey, comparing the results for Caribbean countries with other country groups provides interesting insights, as will be noted below.

Using the methodology of Barth, Caprio, and Levine (2013), the database quantified and grouped the variables into several indicators, which will be discussed below. There are, of course, many alternative ways to aggregate and, even, quantify the Caribbean and 2019 BRSS responses. As stated by Barth, Caprio, and Levine (2006, 81): “The groupings discussed here reflect our judgment of sensible ways in which to capture broader approaches to regulating and supervising banks, knowing full well that some variables may be used in more than one aggregate index.”

A limitation of this study is that the Caribbean survey does not allow for constructing all the variables and indicators that Barth, Caprio, and Levine (2013) used for their assessment of banking regulation and supervision worldwide. Future work could focus on covering topics that are not included in this chapter. It would also be ideal if all Caribbean countries were included in the next BRSS. This would facilitate the updating and creation of new indicators of interest.

As in Barth, Caprio, and Levine (2013), the indicators are grouped here in different categories. For the purposes of this chapter, the indicators are grouped into three categories: capital regulation,⁴⁷ supervisory review, and market discipline. The first category discusses the stringency of capital requirements. The second category analyzes the degree to which supervisory authorities have powers to intervene to promote a “safe and sound” banking industry and the independence of regulators and supervisors, focusing on the degree to which the authorities are free of undue pressure. Given the broad topics discussed in this category, it is divided here into two sub-categories (which will be explained below): official supervisory action and independence of supervision. The third category changes pace and focuses on market discipline, which captures the capacity and incentives of market participants to monitor and influence the stability of banking systems.

The full details of the definitions and methodology of the indicators used in this study are presented in Annex 10.1. Table 10.10 summarizes the results of the exercise conducted by applying the methodology using data from the 2019 BRSS and Caribbean survey. The first column presents the categories,

⁴⁷ Liquidity regulations are not assessed in this chapter because of insufficient information for relevant comparison across countries.

sub-categories, and indicators considered in this chapter. The second column shows how to interpret the scores obtained when calculating each indicator. As shown in Annex 10.1, each indicator obtains a score depending on the responses to each question in the surveys. The third column presents the numerical range in which these scores fluctuate. The rest of the columns show the scores for each Caribbean country and country groupings.

It is important to mention that the aggregate indicators for all country groupings were calculated using the median score for each country group. The median was used here instead of simple averages in order to reduce biases created by outliers.

The rest of this chapter focuses on analyzing each of the categories and sub-categories (indicators) presented in Table 10.10.

Capital Regulation

Capital regulation is one of the most important components of banks' regulatory frameworks around the world. As explained earlier in this chapter, in the aftermath of the 2007–2008 global financial crisis the Basel Committee recommended increasing capital requirements by introducing a time-varying component (countercyclical buffer) and a conservation buffer. In addition, the committee recommended that most capital needs be made up of the highest-quality capital (common shares and retained earnings).

Given all these changes in bank regulation and supervision standards, what has been the progress of Caribbean countries in implementing these recommendations in their regulatory toolkit? The sections that follow explore the adoption of these new standards by analyzing a modified version of an indicator constructed by Barth, Caprio, and Levine (2013) called overall capital stringency (see Annex 10.1 for details)

Overall capital stringency

The results suggest that The Bahamas, Guyana, Jamaica, and Trinidad and Tobago have the highest levels of capital stringency among Caribbean countries—higher than Latin America and ROSE, but lower than the OECD countries (Table 10.10). Barbados follows closely, and Suriname has a long way to go. These differences respond to different levels of implementation of the latest Basel agreements on capital adequacy regimes.

Progress in adopting the Basel III framework in Caribbean countries has, until now, focused on capital adequacy regimes. All Caribbean countries have included in their regulatory toolkits at least the Basel I standards on capital adequacy ratios (Table 10.11).

Table 10.10. Assessing Bank Regulation and Supervision Frameworks: Results from Indicators, 2019

Categories and Indicators	Quantification	Range	BS	BB	GY	JM	SR	TT	LATAM (median)		OECD (median)		ROSE (median)
1. Capital Regulation													
1.1 Overall Capital Stringency ^a	Higher scores indicate greater stringency.	0–5.5	5	4.5	5	5	3	5		3	5.5		3
2. Supervisor Review													
2.1 Official Supervisory Action													
2.1.1 Official Supervisory Power	Higher scores indicate greater power.	0–14	14	13	10	n.a. ^b	7	13		12	12		11
2.1.2 Court Involvement	Higher scores indicate more supervisory discretion.	0–3	0	0	1	n.a.	1	1		2	1		2
2.1.3 Diversification	Higher scores indicate more diversification.	0–2	0	0	1	1	1	2		1	2		1
2.2 Independence of Supervision													
2.2.1 Independence of Supervisory Authority: Political	Higher scores indicate greater independence.	0–1	0	0	0	0	1	0		1	1		0
2.2.2 Independence of Supervisory Authority: Bank	Higher scores indicate greater independence.	0–1	1	1	1	1	1	1		0	1		1
2.2.3 Independence of Supervisory Authority: Fixed Term	Higher scores indicate greater independence.	0–1	1	1	1	1	0	1		1	1		1

(continued on next page)

Table 10.10. Assessing Bank Regulation and Supervision Frameworks: Results from Indicators, 2019 (continued)

Categories and Indicators	Quantification	Range	BS	BB	GY	JM	SR	TT	LATAM (median)	OECD (median)	ROSE (median)
3. Market Discipline											
3.1 Accounting Practices	Higher scores indicate better practices.	0–1	1	1	1	1	0	1	0	1	1
3.2 Strength of External Audit	Higher values indicate better strength of external audit.	0–7	6	5	6	6	4	5	6	6	6
3.3 Financial Statement Transparency	Higher scores indicate better transparency.	0–4	1	1 ^c	4	2	1	4	4	4	4
3.4 External Ratings and Creditor Monitoring	Higher scores indicate better credit monitoring.	0–3	0	2	1	0 ^e	1	1	2	2	1

Sources: For the Caribbean countries, the Caribbean survey conducted in 2019 for this chapter; for Latin America, OECD, and ROSE; the Bank Regulation and Supervision Survey (World Bank 2019); and authors' calculation based on Barth, Caprio, and Levine (2013). The information from the Caribbean surveys was validated with internal information from the Inter-American Development Bank.

Note: The different colors are intended to help the reader identify strengths and weaknesses in bank regulatory and supervisory frameworks. White cells denote that the country/region has implemented policies closer to the recommendations advanced by standard-setting bodies, particularly those in Basel III. The darker the shading, the less the country/region has implemented those recommendations. LATAM: Latin America; OECD: Organisation for Economic Co-operation and Development; ROSE: rest of the small economies in the world; n.a.: not available. We have used the median to estimate the scores of country groups. For the OECD countries included see footnote 13 in the main text; for the Latin American countries see footnote 14. Given the availability of information, the ROSE group includes 29 countries: Bahrain, Belize, Bhutan, Botswana, Cabo Verde, Comoros, Cyprus, Djibouti, Estonia, Fiji, FYR Macedonia, Guinea-Bissau, Iceland, Latvia, Lesotho, Luxembourg, Maldives, Malta, Mauritius, Montenegro, Namibia, Qatar, Samoa, São Tomé and Príncipe, Seychelles, Slovenia, The Gambia, Tonga, and Vanuatu.

^a The indicator also provides a positive score to the Caribbean countries that have implemented all or a group of guidelines under the Basel III capital regulatory adequacy regime or are in the process of implementing all or a set of recommendations of Basel Pillars 2 and 3 (capital requirements). The scores for Latin America, OECD, and ROSE only consider the cases of complete or partial implementation of the Basel III capital regulatory adequacy regime.

^b Jamaica did not provide answers to all the questions that constitute this indicator and, therefore, a score could not be obtained for this country. However, information about the variables that were answered can be found in Table 10.12.

^c In Barbados, a score of zero is given to one of the four questions used to estimate this indicator because the answer is not specifically mentioned under the financial legislation of the Central Bank of Barbados (see Table 10.14 for more details). Jamaica did not provide information on one of the three questions used in the indicator: "Is subordinated debt allowed as part of Tier 2 capital?"

Table 10.11. Current Regulatory Capital Adequacy Regime in Caribbean Countries

	BS	BB	GY	JM	SR	TT
Basel I	X		X	X	X	X
Basel II	X	X	P ^b	P ^c		P ^e
Basel III	P ^a		P ^b	P ^c		P ^e
Other					X ^d	

Sources: Caribbean survey conducted in 2019 for this chapter; Central Bank of The Bahamas (2020); Bank of Guyana (2019); Simms (2019); and Central Bank of Trinidad and Tobago (2020).

Note: “X” denotes implemented, and “P” indicates either the country adopted some elements of Basel III Pillar 1 (focused on capital requirements) or is going through a process of implementing all or some elements of that pillar.

^a The Central Bank of The Bahamas proposed implementing the Basel III capital regulations by January 1, 2021 (CBoB 2020).

^b In December 2019, Guyana implemented some elements of the Basel II/III framework, such as the capital definition and operational risks based on Basel III and the market risk and standardized approach to assessing credit risk based on Basel II (IMF 2019b).

^c Phase 2 of the implementation of Basel III standards entails the implementation of standardized approaches for minimum capital requirements for credit, market, and operational risks under Pillar 1 and elements of Pillar 2 under Basel II/III. Phase 3 is scheduled to commence in 2022 and is designed to adopt the capital conservation buffer, the countercyclical capital buffer, and the net stable funding ratio (NSFR) (Simms 2019).

^d Basel I with higher requirements; the minimum capital adequacy ratio (CAR) is 10 percent.

^e Phase 1 for the adoption of the Basel II/III standards was expected to be passed in 2020 and, according to the findings of the Caribbean survey, a group of banks, nonbanks, and financial holding companies are currently reporting under the Basel II Pillar 1 methodology on a parallel basis. Phase 1 includes implementation of the standardized approach for credit risk and operational risk under Basel II and adoption of minimum capital requirements under Basel III (i.e., a higher minimum Tier 1 capital ratio of 6 percent, a minimum common equity Tier 1 ratio of 4.5 percent, and a higher minimum capital adequacy ratio of 10 percent) (Central Bank of Trinidad and Tobago 2020).

The adoption of Basel standards is a process that may take years to complete. Caribbean countries’ schedules for implementing the Basel agreements vary in time and scope. The Bahamas applies a combination of Basel I, II, and III regimes in its banks. Basel I is applied for calculating RWA for market risks, and Basel II for calculating RWA for credit risk and operational risk. Under Basel III,⁴⁸ The Bahamas is implementing the capital requirements (i.e., Tier 1, Tier 2, and total capital).⁴⁹ According to

⁴⁸ The Central Bank of The Bahamas published a discussion paper in December 2018 that discusses how to determine what qualifies as high-quality liquidity assets (HQLA), and the implementation of liquidity coverage ratios (LCR), net stable funding ratios (NSFR), and enhanced liquidity monitoring metrics (CBoB 2018). CBoB (2020) includes in the central bank’s framework additional capital buffers that take into account the capital conservation buffer and the countercyclical capital buffer of Basel III. According to Bahamian authorities, implementation of Basel III capital standards is expected to be completed by January 2021. These plans might need to be modified in light of the impact of COVID-19.

⁴⁹ The Bahamas is still working on some elements of Pillar 1 of Basel III.

a proposal for adopting all of the Basel III capital framework, the Central Bank of The Bahamas proposed an “additional capital buffer” that ranges between 2.5 and 9 percent and is comprised of a capital conservation buffer that ranges between 2.5 and 5 percent of RWA (and has to be held in the form of common equity Tier 1 capital at all times), and a systemic risk buffer that ranges from 0 to 4 percent of RWA (Central Bank of The Bahamas 2020). The proposed range is greater than that recommended by Basel II, which implies even greater levels of stringency in capital regulation than in the accord.

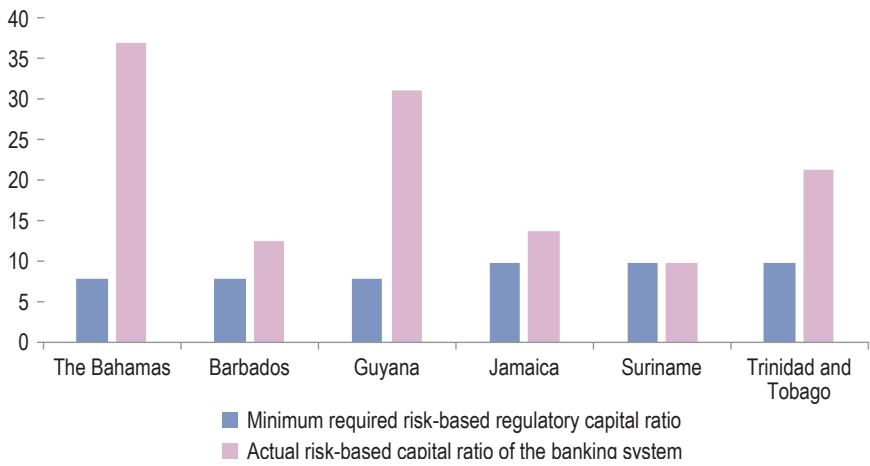
Before the COVID-19 outbreak, Jamaican authorities had scheduled implementation of the Basel III framework in three phases (Simms 2019),⁵⁰ with the adoption of capital regulations in phase two. Phase two includes the adoption of standardized approaches for minimum capital requirements for credit, market, and operational risks under Pillar 1, and elements of Pillar 2 under Basel II/III. Phase 3 is scheduled to commence in 2022 and aims to adopt the capital conservation buffer, the countercyclical capital buffer, and NSFR.

In the case of Guyana, the authorities implemented a hybrid approach to the Basel framework in December 2019 in which, according to IMF (2019b), capital definition and operational risk are based on Basel III, while market risk and the standard approach to assessing credit risk are based on Basel II.

In Trinidad and Tobago, the authorities have divided implementation of the Basel II/III standards into two phases. The regulations under phase 1 were expected to be passed in 2020, and are focused on adopting the standardized approach to credit risk and operational risk under Basel II and on the minimum capital requirements under Basel II/III (Central Bank of Trinidad and Tobago 2020). The second phase, which is likely to be implemented by 2023, aims to continue implementation of the Basel II/III standards by including Pillars 2 and 3 of Basel II and some elements of Pillar 1 of Basel III, such as the capital conservation buffer and liquidity coverage ratio (Central Bank of Trinidad and Tobago 2020). In both Guyana and Trinidad and Tobago, the new regulations contemplate adoption of the capital conservation buffers, but not the countercyclical capital buffer, of Basel III.

Barbados follows the Basel II standards and Suriname works with Basel I standards with a higher minimum capital adequacy ratio (CAR) of 10 percent. Neither country has published a schedule for implementation of any of the Basel III recommendations.

⁵⁰ During phase one, which culminated in October 2019, Jamaica implemented the liquidity coverage ratio (LCR) under Basel III.

Figure 10.6. Regulatory Capital in the Caribbean, 2018 (percent)

Source: Caribbean survey conducted in 2019 for this chapter.

Note: In the case of The Bahamas the international rule is 8 percent, but the rule for domestic banks is 17 percent minimum.

As explained earlier in Section 10.3, while the minimum capital RWA ratio has been maintained at 8 percent in Basel III, the new standards incorporate two new buffers that increase the required capital-to-RWA ratio to a level that fluctuates between 10.5 and 13 percent. Figure 10.6 shows both the minimum capital requirements imposed by the Caribbean authorities and the actual capital ratios maintained by the banks. With the caveat that the definition of capital may vary between countries,⁵¹ Jamaica and Suriname have higher levels of minimum capital requirements than those recommended in Basel I (which is the current regime they are following). A plausible explanation is that the authorities want to signal the presence of higher capital buffers in recognition of higher risks relative to those in advanced economies. The practice of adopting capital requirements higher than those recommended by the BCBS is referred to as gold-plating, although it is perhaps better understood as a way of ensuring that regulatory requirements match the true risks faced by the local financial systems.

The Bahamas, Guyana, and Trinidad and Tobago also hold much higher levels of capital ratios compared to the minimum required in those countries.⁵² In Guyana, the explanation might be related to the inability to place

⁵¹ This caveat is important because experience shows that due to differences in the definition of what constitutes capital, capital requirements might not be as stringent.

⁵² Comparisons across countries in Figure 10.6 are not appropriate because countries follow different definitions of capital requirements (Basel I, II, or III).

low-risk loans. In Trinidad and Tobago, part of the explanation is the fact that the country serves as a financial hub for the Caribbean, and historical factors surely play a role as well. For example, 2009 saw the collapse of CL Financial, a group that controlled over TT\$100 billion (US\$16.3 billion) in assets in at least 28 companies throughout the region and the world. The group's four biggest financial institutions managed assets of over TT\$38 billion (US\$6.2 billion), about 45 percent of the total assets of the banking system in Trinidad and Tobago. This led to a financial sector crisis in which banks and CL Financial had to be bailed out. Another reason Trinidad and Tobago holds higher levels of capital ratios is that, as in the case of Guyana, the banks are unable to place low-risk loans.

Regulators in The Bahamas consider two major drivers behind the high capital ratio.⁵³ First, the Basel rule is built with large, publicly listed banks in mind, that is, banks that have plenty of access to new capital in need. The Bahamas lacks these new sources, so banks need enough capital to take a large hit to profits and still be able to function. Second, several of the internationally owned banks find that leaving capital in The Bahamas generates tax-exempt or at least tax-deferred income. If they send the capital home via dividends, depending upon the jurisdiction, they may face immediate or longer-term increases in tax payments. Thus, there is an incentive to build up larger capital positions in The Bahamas than might be prudentially necessary. To reduce this incentive, Bahamian authorities have encouraged some banks to return more capital to their parent financial institution, on the grounds that an under-levered balance sheet depresses their apparent Bahamian returns on equity. Across the internationally active licensees, there is a heavy focus on fund management relative to lending. The former generates good returns on minimal regulatory capital needs, but the actual need for capital to cover operational risks may be higher than what is calculated by the Basel formulas.

In The Bahamas, the capital of most banks is common equity, which puts banks in a comfortable position regarding their holdings of high-quality capital. Bahamian banks have traditionally been well capitalized amidst increasingly stringent global capital requirements. The ratio of total capital-to-RWA for all public reporting banks stood at 37.4 percent as of 2018. This capital ratio is much higher than is the case for the great majority of banks headquartered in the Basel Committee member countries. In Jamaica, high-quality capital, covered by paid-in capital (17.3 percent)

⁵³ Information obtained from Inter-American Development Bank team conversations with relevant country authorities.

and non-distributed reserves (81.7 percent), accounts for almost the entire capital of the commercial banking sector (Bank of Jamaica 2019). Unfortunately, more information for the other Caribbean countries on the quality of capital is not available. Under these circumstances, the authorities of these countries are encouraged to publish more data on the topic, which would eventually increase transparency on the strength of their financial systems.

Supervisor Review

As explained earlier in this chapter, there has been greater emphasis placed on systemic stability and macroprudential regulation under Basel III, which requires a focus on an individual bank's contribution to the overall risk of the financial system. New macroprudential rules require continuous monitoring and stress-testing of large financial institutions. These new capital and macroprudential regulations require a sizable investment in supervisory infrastructure and personnel.

This section uses information from the 2019 BRSS and Caribbean survey to answer two main questions: What powers do supervisory authorities possess? And, how much independence do supervisory authorities have? For this purpose, the category of supervisor review in Table 10.10 is divided into two sub-categories. The first analyzes the indicators related to the actions that supervisors can take; the second provides indicators that, by analyzing the autonomy of supervisors and their protection by the legal system, serve to assess the degree of independence that supervisors have. It is important to mention that the methodology to quantify the indicators comes from Barth, Caprio, and Levine (2013). Changes in the original methodology are those of the authors of the present chapter (see Annex 10.1 for more details on the construction of these indicators).

Official supervisory action

This section presents three indicators constructed by Barth, Caprio, and Levine (2013) that reflect on the role of the supervisor authority: official supervisory power, court involvement, and a diversification index. The first indicator aims to measure the power that supervisory authorities have to take corrective action. The second measures the extent to which the court can intervene and therefore limit, delay, or even reverse the actions taken by supervisory authorities. The third measures the degree to which the supervisor encourages or restricts the asset and geographical diversification of banks (see Annex 10.1 for more information on the construction of these indicators).

Official supervisory power

This indicator was constructed using the authorities' responses to 11 questions that focus on the bank supervisor's powers. Table 10.12 shows the scores attained for these components of the indicator.⁵⁴

As shown in Table 10.12, supervisory authorities in Caribbean countries and other country groupings have the power to meet with external auditors to discuss their report without the approval of the bank. Similarly, all Caribbean countries and the other country groupings can force a bank to change its internal organizational structure. However, despite the importance of an accurate audit, Barbados, Suriname, and Trinidad and Tobago do not grant the power to supervisors to take legal actions against external auditors. Jamaica and Suriname do not legally require auditors to communicate directly to the supervisory agency any presumed involvement of bank directors or senior managers in illicit activities, fraud, or insider abuse. All Caribbean countries do require that off-balance-sheet items be disclosed to supervisors.

Table 10.12 also shows three variables related to the powers of the supervisory authority to require banks to have adequate provisions to cover actual or potential losses, reduce or suspend dividends to shareholders, and reduce or suspend bonuses and other remuneration to bank directors and managers. With respect to provisioning requirements, Guyana is the only country where the supervisory authority does not have the power to require banks to constitute provisions to cover actual or potential losses. The supervisory authorities of all Caribbean countries have the power to require banks to reduce or suspend dividends to shareholders. However, in Guyana the supervisory authority does not have the power to require banks to reduce or suspend bonuses and other remuneration to bank directors and managers.

Finally, the last three questions used to construct this indicator identify the authority in charge of carrying out the following bank resolution activities:⁵⁵ declare insolvency, supersede shareholders' rights, and remove and replace bank senior management and directors.

The power to declare insolvency is considered extremely important because supervisors can exercise a high degree of discretion in their interventions against troubled banks or against reckless behavior by banks (Barth, Caprio, and Levine 2013). In The Bahamas, Barbados, and Trinidad

⁵⁴ In computing the value of the indicator, it is important to note that variables are assigned different weights (see Annex 10.1). Thus, although there are 11 variables in the indicator, the scores shown in Table 10.10 range from 0 to 14.

⁵⁵ There is no available information for Jamaica for these three variables.

Table 10.12. Components of Official Supervisory Power in the Caribbean, Latin America, Organisation for Economic Co-operation and Development, and the Rest of the Small Economies in the World

Questions	BS	BB	GY	JM	SR	TT	LATAM (median)	OECD (median)	ROSE (median)
Does the supervisory agency have the right to meet with external auditors to discuss its report without the approval of the bank?	1	1	1	1	1	1	1	1	1
Can the supervisory authority force a bank to change its internal organizational structure?	1	1	1	1	1	1	1	1	1
In cases where the supervisor identifies that the bank has received an inadequate audit, does the supervisor have the power to take actions against the external auditor?	1	0	1	1	0	0	1	1	1
Are auditors required by law to communicate directly to the supervisory agency any presumed involvement of bank directors or senior managers in illicit activities, fraud, or insider abuse?	1	1	1	0	0	1	1	1	1
Do banks disclose off-balance-sheet items to the supervisor?	1	1	1	1	1	1	1	1	1
Does the supervisory agency have the power to require banks to constitute provisions to cover actual or potential losses?	1	1	0	1	1	1	1	1	1
Does the supervisory agency have the power to require banks to reduce or suspend dividends to shareholders?	1	1	1	1	1	1	1	1	1
Does the supervisory agency have the power to require banks to reduce or suspend bonuses and other remuneration to bank directors and managers?	1	1	0	1	1	1	1	1	1

(continued on next page)

Table 10.12. Components of Official Supervisory Power in the Caribbean, Latin America, Organisation for Economic Co-operation and Development, and the Rest of the Small Economies in the World (continued)

Questions	BS	BB	GY	JM	SR	TT	LATAM (median)	OECD (median)	ROSE (median)
Which authority has the powers to declare insolvency? ^a	1	1	0	n.a. ^b	0	1	1	0	0
Which authority has the powers to supersede shareholders' rights? ^a	1	1	1	n.a. ^b	0	1	1	0.5	1
Which authority has the powers to remove and replace bank senior management and directors? ^a	1	1	1	n.a. ^b	0	1	1	1	1

Sources: Caribbean survey conducted in 2019 for this chapter; Bank Regulation and Supervision Survey (World Bank 2019); Barth, Caprio, and Levine (2013); and authors' calculations.

Note: LATAM: Latin America; OECD: Organisation for Economic Co-operation and Development; ROSE: rest of the small economies in the world. For each Caribbean country, "1" indicates "yes" and "0" indicates "no." As in Table 10.10, the scores for country groups were estimated using the median of the countries that composed those groups. The scores for the country groups range between 0 and 1. The country group indicators only consider countries with information, which means that if there is no available information it is not taken into account for the estimation.

^a The indicator's score depends on the authority in charge of these powers: Bank Supervisor = 1; Deposit Insurance Agency = 0.5; Bank Restructuring or Asset Management Agency = 0.5; Court = 0; Other = 0. n.a. denotes data are not available.

^b According to responses by authorities to the Caribbean survey, the resolution framework is still being drafted.

and Tobago, the supervisory authority enforces this power. In Guyana and Suriname, only the courts have enforcement power in this area; these two countries, therefore, have the lowest score on this variable.

Similarly, in most Caribbean countries the supervisory authority can supersede shareholders' rights, except in Suriname, where the court has this power.

According to Barth, Caprio, and Levine (2013), the supervisory authority has more power when it has the ability to remove and replace bank senior management and directors. Among the Caribbean countries, only Suriname's supervisory authority has no power in this regard.

Overall, The Bahamas achieved the highest score on the official supervisory indicator (14), followed by Barbados and Trinidad and Tobago (with a score of 13). Guyana (10), Jamaica (8), and Suriname (7) have the lowest scores. Table 10.10 also shows higher levels on this indicator for The Bahamas, Barbados, and Trinidad and Tobago compared to the levels of official supervisory powers in Latin America, OECD, and ROSE.

Why don't OECD countries have a higher score on this indicator? Results show that this group of countries achieved the highest score on

almost all the questions that compose this indicator, except one: “Which authority has the powers to perform three bank resolution activities (declare bank insolvency, supersede shareholders’ rights, and remove and replace bank senior management and directors)”? In order to obtain the highest score of the indicator, the bank supervisor must be the authority that performs these activities. A significant number of OECD countries use courts or bank restructuring or asset management agencies to carry out these activities. This lowers the score of the indicator for the median OECD country.

Court involvement

This indicator is important because, in some countries, the courts might have sole jurisdiction with respect to certain banking matters or have the power to supersede the authority of supervisors in other matters.⁵⁶ According to Barth, Caprio, and Levine (2013), the independence of the supervisory authority can become meaningless if courts succumb to political pressure that supersedes the authority of supervisors. In The Bahamas, Barbados, Guyana, and Suriname, court approval is required to declare insolvency of banks. In Suriname, approval is also required to supersede shareholders’ rights and remove and replace bank senior management and directors. Court approval for appointing and overseeing a bank liquidator/receiver is required in The Bahamas, Barbados, and Trinidad and Tobago. In all Caribbean countries except Jamaica, bank shareholders can appeal to the court against a resolution decision of the banking supervisor. Based on the methodology to calculate this indicator (see Annex 10.1), among the Caribbean countries, Guyana, Suriname, and Trinidad and Tobago show the highest score on it, which means that these countries have more supervisory discretion than the other Caribbean countries. The medians for Latin America (2) and ROSE (2) are higher than that of OECD (1) and all the Caribbean countries.

Diversification

This indicator aims to measure the degree to which the supervisory authority encourages or restricts the diversification of the bank’s asset portfolios. The idea behind this indicator is to measure if supervisory authorities provide explicit, verifiable, and quantifiable guidelines regarding asset diversification.

⁵⁶ No score is provided for Jamaica because the Jamaican authorities indicated that the legislation on these issues is incomplete, so responses on the resolution are subject to change.

Among Caribbean countries, Trinidad and Tobago is the only one that has regulatory rules or supervisory guidelines regarding asset diversification. However, most Caribbean countries (except The Bahamas and Barbados) have not prohibited banks from making loans abroad. Overall, Trinidad and Tobago and the OECD countries have the highest score on this indicator, and The Bahamas and Barbados have the lowest.

Independence of supervision

According to Barth, Caprio, and Levine (2013), supervisors represent the mainline of government defense against unsafe and unsound banking practices. Therefore, while supervisors remain accountable for their actions, their independence is relevant because it enables them to resist any political pressure or influence from politicians and banks.

To address the issue of independence, three indicators constructed by Barth, Caprio, and Levine (2013) were calculated to measure the degree of independence of the supervisory authority: political, bank, and fixed-term indicators (for the exact construction of these indicators, see Annex 10.1).

Independence of supervisory authority: Political

In most Caribbean countries, the supervisory agency is legally responsible for supervision or accountable to the Minister of Finance or other cabinet-level official. In Suriname, the governor of the Central Bank of Suriname (CBvS) is responsible for banking supervision and reports to the National Assembly.⁵⁷ Therefore, Suriname is the only Caribbean country that achieved the highest score on this indicator, in line with the median of Latin American and OECD countries, where supervisors are also independent.

Independence of supervisory authority: Bank

In all Caribbean countries, supervisory authorities are protected from the banking industry by the legal system, at least to some extent. Therefore, all Caribbean countries have the highest possible score for this indicator. This is also the case in the OECD and ROSE, but not for the median Latin American country. It is important to mention that this indicator does not capture the degree of legal protection provided to individual supervisory personnel.⁵⁸ More analysis is needed to fully understand the degree of legal protection in each country.

⁵⁷ The National Assembly is the parliament, representing the legislative branch of government in Suriname.

⁵⁸ The indicator reflects that, at least to some extent, individual supervisory personnel are legally protected for their actions and omissions committed in the good faith exercise of their functions.

Independence of supervisory authority: Fixed term

As indicated by Barth, Caprio, and Levine (2013), a fixed and relatively long-term supervisory authority affords a greater degree of independence. Following on these authors, a term of four or more years of service is also used here as indicative of greater independence. In most Caribbean countries, the head of the supervisory agency has a term of four or more years. Suriname is the only country where the supervisory agency does not have a fixed term. On an overall basis, compliance with this criterion for supervisory independence seems to be very high around the world. As such, the median scores for Latin America, OECD, and ROSE on this indicator are the highest score possible.

In addition to countries' regulatory and supervisory practices affecting the behavior of banks, private market forces are also an important influence and can play an important disciplinary role. The next section turns to indicators suggested by Barth, Caprio, and Levine (2013) to capture the extent to which private or market discipline exists in different countries.

Market Discipline

The objective of market discipline is to complement the minimum capital requirements and the supervisory review process by developing a set of disclosure requirements that allow market participants to gauge the capital adequacy of an institution and other supervisory efforts to promote safety and soundness in banks and financial systems (BIS 2001). Thus, in Basel II and III, market discipline is considered a third pillar for ensuring financial stability.

As established in the Basel Accords, the idea behind this pillar is to impose strong incentives on banks to conduct their business in a safe, sound, and efficient manner. It can also provide banks with an incentive to maintain a strong capital base as a cushion against potential future losses arising from its risk exposures (BIS 2001). The role of the supervisors here is to facilitate effective market discipline by aligning the incentives of actions for a sound financial system between them and the banks.

The sections that follow explore a set of indicators advanced by Barth, Caprio, and Levine (2013). As in the previous sections, these comparisons help to identify areas where improvements are needed in Caribbean countries.

Accounting practices

This variable indicates whether bank accounting practices are in accordance with International Financial Reporting Standards (IFRS) or U.S. Generally Accepted Accounting Principles and Standards (GAAP and GAAS). As

stated by Barth, Caprio, and Levine (2013), the accounting standard chosen by a country is important because different standards can produce differences in the quality of financial statements and, consequently, affect the ability to assess, monitor, and control the behavior of banks in taking risks.

Most Caribbean countries use the IFRS accounting standards at an individual level, except Suriname, which only uses these standards at a consolidated level. With the notable exception of the median Latin American country, the rest of the country groups achieved the highest score on this indicator.

Strength of external audit

This indicator was constructed by Barth, Caprio, and Levine (2013), using seven questions specified in Annex 10.1. The indicator measures the effectiveness of external audits of banks. A higher score on the indicator denotes better strength of external audits. Table 10.13 shows the components of this indicator. Among Caribbean countries, only Jamaica has specific requirements for the extent or nature of the audit. In Trinidad and Tobago, specific requirements may be requested for special audits. In all Caribbean countries, the supervisors receive a copy of the auditor's report on the financial statements and the banking supervisor has the right to meet with the external auditors and discuss their report without the approval of the bank.

In addition, in most Caribbean countries except Jamaica and Suriname, auditors are required to communicate directly to the supervisory agency any presumed involvement of bank directors or senior managers in illicit activities, fraud, or insider abuse. However, only in The Bahamas, Guyana, and Jamaica does the supervisor have the powers to take actions against the external auditor when it identifies that a bank has received an inadequate audit.

In all Caribbean countries, a professional external auditor is required for all commercial banks, and that professional needs a professional certification or to have passed a specific exam to qualify as an external auditor. As mentioned by Barth, Caprio, and Levine (2013), this type of audit would presumably indicate the presence or absence of an independent assessment of the accuracy of the financial information disclosed to the public.

It is important to note that no country in the Caribbean has the best possible scores on all the components of this indicator, which shows the range of strengths and weaknesses in this area among these countries. However, The Bahamas, Guyana, and Jamaica have levels of strength in banks' external auditing similar to those of Latin America, OECD, and ROSE.

Table 10.13. Strength of External Audit Components in the Caribbean, Latin America, Organisation for Economic Co-operation and Development, and the Rest of the Small Economies in the World

	BS	BB	GY	JM	SR	TT	LATAM ^a (median)	OECD ^a (median)	ROSE ^a (median)
Are specific requirements for the extent or nature of the audit spelled out?	0	0	0	1	0	0	1	1	1
Do supervisors receive a copy of the auditor's report on the financial statements?	1	1	1	1	1	1	1	1	1
Does the banking supervisor have the right to meet with the external auditors and discuss their report without the approval of the bank?	1	1	1	1	1	1	1	1	1
Are auditors required to communicate directly to the supervisory agency any presumed involvement of bank directors or senior managers in illicit activities, fraud, or insider abuse?	1	1	1	0	0	1	1	1	1
In cases where the supervisor determines that the bank has received an inadequate audit, does the supervisor have the power to take actions against the external auditor?	1	0	1	1	0	0	1	1	1
Is an audit by a professional external auditor required for all commercial banks in your jurisdiction?	1	1	1	1	1	1	1	1	1
If yes, does the external auditor have to obtain a professional certification or pass a specific exam to qualify as such?	1	1	1	1	1	1	1	1	1

Sources: Caribbean survey conducted in 2019 for this chapter; Bank Regulation and Supervision Survey (World Bank 2019); Barth, Caprio, and Levine (2013); and authors' calculations.

Note: LATAM: Latin America; OECD: Organisation for Economic Co-operation and Development; ROSE: rest of the small economies in the world. For each Caribbean country, the "1" indicates "yes" and "0" indicates "no." As in Table 10.10, the score for country groups was estimated using the median of the countries that composed those groups. The score for the country groups ranges between 0 and 1. The country group indicators only consider countries with information, which means that if there is no available information the country is not taken into account for the estimation.

^a Although each variable of the indicator achieves the maximum score, the score of the indicator reported in Table 10.10 is not equal to the sum of these scores because the indicator is calculated as the median of the score of the indicator of each country that composes the country groupings.

Financial statement transparency

As stated by Barth, Caprio, and Levine (2013), the transparency of a bank's financial statements is important because it enables depositors,

creditors, and shareholders to better assess the bank's risk of default. Transparency in financial statements reduces the costs of, and speeds up, adequate monitoring and control of banks' risk exposure. Thus, the degree of transparency is also tied to a bank's funding costs because it provides a clearer picture of the bank's risk-taking behavior (Barth, Caprio, and Levine 2013).

Table 10.14 provides information on the variation in the practices of countries regarding the transparency of banks' financial statements. Only on one of the three components of the indicator do all Caribbean countries obtain the highest possible score. There was divergence regarding the question of whether the bank directors are legally liable if information disclosed is erroneous or misleading. The Bahamas, Barbados,⁵⁹ and Suriname did not score well. On the other hand, Guyana and Trinidad and Tobago have the same high scores as the rest of the country groups.

External ratings and creditor monitoring

As indicated by Barth, Caprio, and Levine (2013), this indicator measures the degree to which banks are required to have an external credit rating and the extent to which subordinated debt is an allowable or required part of capital for all of the top 10 banks. Given the changes in Basel III, it is not relevant anymore to allow subordinated debt as part of Tier 1 capital. Thus, the focus here is on the same questions but for Tier 2 capital.⁶⁰

The results suggest that Barbados is the Caribbean country with the highest score on this indicator, followed by Guyana, Suriname, and Trinidad and Tobago. The results for Barbados are similar to those for Latin America, OECD, and ROSE.

10.6. Concluding Remarks

This chapter has had two objectives. First, it has presented arguments and data supporting the implementation of tools associated with the new macroprudential regulatory approach in Caribbean countries. This approach emphasizes avoiding systemic banking crises and complements the traditional approach to regulation that focuses on indicators that reflect the financial soundness of individual financial institutions. Second, it has assessed the current strengths and weaknesses of the regulatory and

⁵⁹ See the footnote of Table 10.14 for more details on this question.

⁶⁰ Jamaica did not provide information on whether subordinated debt is allowed as part of Tier 2 capital.

Table 10.14. Financial Statement Transparency Components in the Caribbean, Latin America, Organisation for Economic Co-operation and Development, and the Rest of the Small Economies in the World

	BS	BB	GY	JM	SR	TT	CCB (median)	LATAM (median)	OECD (median)	ROSE (median)
Are banks required to prepare consolidated accounts for accounting purposes?	1	1	1	1	1	1	1	1	1	1
Do banks disclose off-balance-sheet items to the public?	0	0	1	0	0	1	1	1	1	1
Do banks disclose the governance and risk management framework to the public?	0	0	1	0	0	1	1	1	1	1
Are bank directors legally liable if information disclosed is erroneous or misleading?	0	0 ^a	1	1	0	1	1	1	1	1

Sources: Caribbean survey conducted in 2019 for this chapter; Bank Regulation and Supervision Survey (World Bank 2019); Barth, Caprio, and Levine (2013); and authors' calculations.

Note: CCB: Caribbean; LATAM: Latin America; OECD: Organisation for Economic Co-operation and Development; ROSE: rest of the small economies in the world. For each Caribbean country, the "1" indicates "yes" and "0" indicates "no." As in Table 10.10, the score for country groups was estimated using the median of the countries that composed those groups. The score for the country groups ranges between 0 and 1. The country group indicators only consider countries with information, which means that the country is not included in the estimate if there is no available information for it.

^a A score of zero was given for this question because the answer is not specifically mentioned under the financial legislation of the Central Bank of Barbados.

supervisory framework in Caribbean countries in order to identify areas that would benefit from improvements.

The macroprudential approach to regulation has two dimensions: (1) a cross-sectional dimension that derives from common exposures across financial institutions (especially because of linkages and interconnections between institutions) and (2) a time dimension that results from the evolution of risk during the economic cycle—that is, the tendency for excessive risk-taking during "good times," leading to credit booms that might turn into credit busts as the economic cycle turns and economic activity slows. Unless adequate regulation is in place, the presence of important financial system interconnectedness and/or deep credit cycles can end in systemic financial crises—an outcome that the macroprudential approach to regulation aims to prevent.

Financial systems in Caribbean countries have important features that warrant implementation of the macroprudential approach to regulation.

First, on the cross-sectional dimension, the high degree of international financial integration of Caribbean countries brings about the risk of contagion and calls for the need to harmonize banking regulations so that domestic and foreign banks operating in Caribbean countries can compete and operate under the same rules (many of those banks have already implemented the macroprudential approach, especially through the adoption of Basel III standards advanced by the Basel Committee on Banking Supervision.) Harmonization with the capital accords needs to be done following a proportional approach, in the sense that the legal frameworks and institutional realities of the Caribbean countries are taken into account. Second, on the time dimension, the data show that credit cycles in Caribbean countries are deeper and last longer compared to those in Latin American countries. The behavior of credit cycles supports the implementation of the time-varying regulations included in the macroprudential approach such as countercyclical capital requirements, a regulation also included in the Basel III framework. This type of instrument can help reduce the formation of financial bubbles during the expansionary phases of the cycle, as well as credit crunches in the contractionary phases. By avoiding credit crunches, supervisors may prevent the potential collapse of the financial system and sharp economic recessions.

It is important to mention that in its Article IV consultations with all Caribbean countries, the International Monetary Fund has recommended the implementation of capital buffers. Moreover, it is noteworthy that countries that had conservation and countercyclical buffers were in a better position to deal with the COVID-19 crisis.

An exploration of the current use of macroprudential regulations reveals that some tools, such as concentration limits, loan-to-value ratios, and limits on interbank exposures, are the most-used macroprudential instruments in Caribbean countries. In recent years, these countries have been expanding their macroprudential toolkits. At present, some Caribbean countries even use more macroprudential instruments than Latin American countries, on average.

To assess the strengths and weaknesses of the current regulatory/supervisory framework in the Caribbean, this chapter conducted a survey of Caribbean authorities on regulatory and supervisory practices, and then used the survey results to construct indicators of strengths and weaknesses.⁶¹ The construction of the indicators and the analysis of the results

⁶¹ Section 10.3 and Annex 10.1 provide a more detailed explanation on the definitions, construction, and results of this exercise.

took into account that the Basel III accord incorporates many of the recommendations of the macroprudential approach. Therefore, the indicators reflect to an important extent the three pillars that form Basel III. As contemplated in Basel III, a robust framework supporting a sound financial system needs to include not only adequate capital regulations (Pillar 1 of Basel III), but also a strong supervisory review process (Pillar 2) and rules supporting market discipline (Pillar 3).⁶² The indicators presented in this chapter are divided into three categories, each one corresponding to key components of the three pillars of Basel III. The three categories are (1) capital regulation, (2) supervisory review, and (3) market discipline. The assessment of the performance of Caribbean countries in these three categories shows a wide range across countries in terms of areas that need improvement.

One of the key components of Basel III, captured in Pillar 1, is the enhancement relative to its predecessors of the requirements for both the quantity and quality of regulatory capital. In particular, Basel III recommends the addition of two capital buffers, the conservation and countercyclical capital requirements. Under the category of capital regulation, this chapter aimed to identify the degree of stringency of capital regulations in Caribbean countries by assessing the extent of implementation of the newest Basel capital standards. Most Caribbean countries use different combinations of the three Basel accords. The Bahamas, Guyana, Jamaica, and Trinidad and Tobago have shown more progress in adopting the capital requirements under Basel III. Among them, The Bahamas and Jamaica are the only ones that have contemplated adopting both the countercyclical and conservation capital buffers, with The Bahamas making the most progress. In the case of Guyana and Trinidad and Tobago, the proposals to strengthen their capital regulation only consider conservation capital buffers. Barbados follows the Basel II standards and Suriname works with a Basel I framework with higher minimum capital requirements. Given the relevance of the macroprudential approach in the region, it is recommended that the authorities of Barbados and Suriname schedule the implementation of all or some elements of the Basel III Pillar 1 capital standards in the not-so-distant future.

Adopting these capital requirements, along with adequate surveillance and stress-testing of financial institutions, requires substantial

⁶² In addition to the capital requirements, Pillar 1 of Basel III also includes new liquidity requirements (see section 10.3 for more details on the new liquidity requirements under Basel III). In this chapter we have only focused on the implementation of capital regulations under Basel III. It remains as a future agenda to explore the relevance and adoption of the new liquidity requirements in the Caribbean countries.

investments in supervision. Pillar 2 of Basel III focuses on the supervisory review process, which aims to ensure that banks have capital to cover all risks in their business, but also to enable banks to build and use better risk management strategies for risk monitoring and risk management (BIS 2019a). In this sense, how strong is the supervisor review process in Caribbean countries? To answer this question, the category of supervisory review presented in this chapter was divided into two parts. The first, official supervisory actions, reflected on the role and actions that supervisors can take in Caribbean countries and is comprised of three indicators: official supervisory power, court involvement, and diversification. The second part deals with the independence of the supervisory agencies in Caribbean countries.

The first indicator, official supervisory power, evaluates the capacity of the supervisory authority to take corrective actions in the presence of difficulties in the banking sector. The results suggest that Guyana and Suriname should enhance the powers of their supervisory agencies. These countries should be focusing on providing supervisors the capacity to declare banks as insolvent. In Guyana, authorities should also require banks to put in place provisions to cover actual or potential losses and implement a framework that reflects the true financial condition of the borrowers. Other issues that need work in Suriname are granting supervisory powers to supersede shareholders' rights and remove and replace bank senior management and directors. In Guyana, the supervisory authority needs the power to require banks to reduce or suspend bonuses and other remuneration to bank directors and managers, when appropriate. Both Suriname as well as Jamaica need to move forward with laws that permit direct communication between auditors and the supervisory agency regarding any presumed involvement of bank directors or senior managers in illicit activities, fraud, or insider abuse. Finally, Barbados, Suriname, and Trinidad and Tobago would benefit from giving the supervisory authority the power to take actions against external auditors.

The second indicator, official supervisory actions, assesses the participation of the courts in resolving banking matters. This indicator measures the levels at which the court can intervene and limit, delay, or even reverse the actions taken by the supervisory authorities. The results suggest that The Bahamas and Barbados have the lowest levels of supervisory discretion and need to work on this issue.⁶³

The third and final indicator in the category of official supervisory actions measures the degree to which the supervisor encourages

⁶³ Due to lack of information, no analysis was conducted on this topic for Jamaica.

or restricts geographic and asset diversification of banks' portfolios. Among Caribbean countries, only Trinidad and Tobago has regulatory asset diversification laws or supervisory guidance on this issue. The rest of the Caribbean countries have room to improve in this area by supporting supervisory authorities in providing a clear, verifiable, and quantifiable guide for the diversification of assets.

The second part of the category on supervisory review evaluates the extent to which supervisors are independent. Adequate supervision constitutes the core weapon for government protection against dangerous and unsound banking activities. Supervisory autonomy and protection by the legal system is essential to enable supervisors to carry out their tasks without any sort of interference from politicians or supervised financial institutions. This chapter analyzed three indicators that reflect on this matter. The first is about the political independence of the supervisory authority. According to the methodology of Barth, Caprio, and Levine (2013), countries have higher levels of supervisory independence when supervisory agencies are accountable to a legislative body, such as Parliament or Congress. However, in most Caribbean countries the supervisory body is accountable to the Minister of Finance or another cabinet-level official (except in Suriname, where the supervisory agency is legally responsible to the National Assembly, that country's legislative branch). Therefore, it is recommended that The Bahamas, Barbados, Guyana, Jamaica, and Trinidad and Tobago work more on the independence of their supervisory agencies.

The second indicator is the independence of supervisory authorities from banks. This indicator denotes whether the legal system protects supervisory authorities from the banking industry. On this indicator, all Caribbean countries obtained the best possible score, which denotes significant strength in the independence of their supervisory authorities from banks.

The third indicator, the fixed-term independence of the supervisory authority, measures the degree of freedom that the supervisor has through a fixed and comparatively long mandate. The head of a supervisory body in most Caribbean countries has a term of four or five years. The exception is Suriname, where the supervisory body does not have a defined mandate, which means that Suriname has room for improvement on this matter.

Finally, market discipline, embodied in Pillar 3 of Basel III, is the third and final category reviewed in the assessment in this chapter of the strengths and weaknesses of the current regulatory/supervisory framework in Caribbean countries. Market discipline is seen as a complement to the minimum

capital and liquidity standards (Pillar 1) and the process of supervisory review (Pillar 2). Market discipline works by establishing a series of transparency standards that allow market participants to assess banks' capital adequacy as well as other supervisory measures to support the protection and soundness of financial systems. The first indicator in this category deals with accounting practices. Different accounting standards can generate variations in the consistency of financial statements and thereby impact the capacity of market participants to evaluate, monitor, and manage risk-taking behavior. Most Caribbean countries have strong policies in this regard because most of them use the IFRS accounting standards at the individual bank level. The exception is Suriname, which only uses this standard at a consolidated level.

The second indicator measures the effectiveness of external audits of banks. None of the Caribbean countries obtained the highest possible score on this indicator, with Barbados, Suriname, and Trinidad and Tobago scoring the lowest. These countries are thus encouraged to focus on this issue, particularly the provision of specific requirements regarding the extent or nature of audits for banks, a recommendation that also applies to The Bahamas and Guyana.

The third indicator assesses the transparency of financial statements by focusing on the veracity and completeness of the information that banks provide to depositors, creditors, and shareholders that would allow them to better assess the banks' risk. Overall, Guyana and Trinidad and Tobago present higher levels of financial statement transparency than The Bahamas, Barbados, Jamaica, and Suriname. It is recommended that the latter countries improve in this area, and that they focus in particular on reviewing the legal responsibility that directors have if information is wrongly disclosed or misleading.⁶⁴

The final indicator of market discipline relates to external ratings and creditor monitoring. The results suggest that supervisory authorities in most Caribbean countries, except Barbados, have work to do if banks are to have external credit ratings.

The aim of this chapter has been that the discussion of the issues presented, and the evaluation of the indicators of regulatory/supervisory strength, will serve as a guide for specific reforms in each of the Caribbean countries analyzed.

⁶⁴ Barbados does not include information on this component and therefore was excluded from the analysis.

Annex 10.1. Guidance on the Methodology to Estimate Bank Regulatory and Supervisory Indicators

This annex provides guidance on the methodology to quantify the indicators presented in this chapter. The indicators presented in the chapter were calculated using the methodology in Barth, Caprio, and Levine (2013). It is important to mention that some of the indicators are modified versions of the original methodology.

Annex Table 10.1 summarizes the inputs of the methodology used in the chapter. The first column indicates the categories and indicators. The second column presents a definition of the indicator. The third column presents the numerical range in which the indicator can be placed (the scoring range). The fourth column details the quantification process of the indicators by providing the following information: (1) an interpretation of the value of the indicator, (2) the criteria for assigning scores to each of the variables (questions in the surveys) used to form the indicator, and (3) the formula to quantify the indicator.

It is important to mention that the variables (questions in the survey) can either have binary responses (yes/no) or multiple choice responses.

Annex Table 10.1. Information on Bank Regulatory and Supervisory Indicators

Variable	Definition	Range of Scores	Quantification	Question
1. Capital Regulation				
1.1 Overall Capital Stringency	Whether the capital requirement reflects certain risk elements and deducts certain market value losses from capital before minimum capital adequacy is determined.	0–5.5	Higher scores indicate greater stringency. For question 1.1.1(a): Yes = 0.5; No = 0. For questions 1.1.1(b), 1.1.2(a), 1.1.2(b), 1.1.2(c), and 1.1.3: Yes = 1; No = 0. For question 1.1.1(c): Yes = 1.5; No = 0. 1.1.1 + 1.1.2(a) + 1.1.2(b) + 1.1.2(c) + 1.1.3	1.1.1 Which regulatory capital adequacy regimes do you currently use and for which banks does each regime apply to (if using more than one regime)? Mark the appropriate response below and specify for which types of banks each regime applies a. Basel II b. Basel III – in the process of implementing all or some of the capital regulations under Basel III. c. Basel III – implemented all the capital regulations under Basel III. 1.1.2 Which risks are covered by the current regulatory minimum capital requirements in your jurisdiction? Please specify all applicable risks. a. Credit risk b. Market risk c. Operational risk 1.1.3 Are the sources of funds to be used as capital verified by the regulatory/supervisory authorities?

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Annex Table 10.1. Information on Bank Regulatory and Supervisory Indicators (continued)

Variable	Definition	Range of Scores	Quantification	Question
2. Supervisor Review				
2.1. Official Supervisory Action				
2.1.1 Official Supervisory Power	Whether the supervisory authorities have the authority to take specific actions to prevent and correct problems.	0–14	Higher scores indicate greater power. For question 2.1.1.1: a = 0; b or c = 1. For questions 2.1.1.2, 2.1.1.3, 2.1.1.4, 2.1.1.5, and 2.1.1.6(a, b, and c): Yes = 1; No = 0.	2.1.1.1 Does the banking supervisor have the right to meet with the external auditors and discuss its report without the approval of the bank?
				a. No b. Yes, it happens on a regular basis c. Yes, it happens on an exceptional basis
				2.1.1.2 Are auditors required to communicate directly to the supervisory agency any presumed involvement of bank directors or senior managers in illicit activities, fraud, or insider abuse?
				2.1.1.3 In cases where the supervisor identifies that the bank has received an inadequate audit, does the supervisor have the power to take actions against external auditor?
				2.1.1.4 Can the supervisory authority force a bank to change its internal organizational structure?
2.1.1.5 Do banks disclose off-balance-sheet items to the supervisors?				

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Annex Table 10.1. Information on Bank Regulatory and Supervisory Indicators (continued)

Variable	Definition	Range of Scores	Quantification	Question
				<p>2.1.1.6 Please indicate whether the following enforcement powers are available to the supervisory agency:</p> <ul style="list-style-type: none"> a. Require banks to constitute provisions to cover actual or potential losses b. Require banks to reduce or suspend dividends to shareholders c. Require banks to reduce or suspend bonuses and other remuneration to bank directors and managers <p>2.1.1.7 Which authority has the powers to perform the following problem bank resolution activities?</p> <p>Enter the initials of the corresponding authority from the following list of options: BS = Bank Supervisor, C = Court, DIA = Deposit Insurance Agency, BR/AMC = Bank Restructuring or Asset Management Agency, OTH = Other (please specify).</p> <ul style="list-style-type: none"> a. Declare insolvency b. Supersede shareholders' rights c. Remove and replace bank senior management and directors

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Annex Table 10.1. Information on Bank Regulatory and Supervisory Indicators (continued)

Variable	Definition	Range of Scores	Quantification	Question
2.1.2 Court Involvement	The degree to which the court dominates the supervisory authority.	0–3	Higher scores indicate more supervisory discretion). Yes = 0; No = 1. (1 if 2.1.2.1(a) = 2.1.2.1(b) = 2.1.2.1(c) = 2.1.2.1(d) = 1, 0 otherwise) + 2.1.2.1(e) + 2.1.2.2	2.1.2.1 Is court approval required for the following bank resolution activities? a. Declare insolvency b. Supersede shareholders' rights c. Remove and replace bank senior management and directors d. Undertake bank resolution mechanisms e. Appoint and oversee a bank liquidator/receiver 2.1.2.2 Can the bank shareholders appeal to the court against a resolution decision of the banking supervisor?
2.1.3 Diversification Index	Whether there are explicit, verifiable, and quantifiable guidelines for asset diversification, and whether banks are allowed to make loans abroad.	0–2	Higher scores indicate more diversification. For question 2.1.3.1: Yes = 1; No = 0. For question 2.1.3.2: Yes = 0; No = 1. 2.1.3.1+2.1.3.2	2.1.3.1 Are there any regulatory rules or supervisory guidelines regarding asset diversification? 2.1.3.2 Are banks prohibited from making loans abroad?

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Annex Table 10.1. Information on Bank Regulatory and Supervisory Indicators (continued)

Variable	Definition	Range of Scores	Quantification	Question
2.2 Independence of Supervision				
2.2.1 Independence of Supervisory Authority: Political	The degree to which the supervisory authority is independent within the government from political influence.	0–1	Higher scores indicate greater independence. Obtains the value of 1 if the answer to 2.2.1.1(c) is “Yes”; 0 otherwise.	2.2.1.1 To whom is the supervisory agency legally responsible or accountable? a. The head of government b. The Finance Minister or other cabinet-level official c. A legislative body, such as Parliament or Congress d. Other
2.2.2 Independence of Supervisory Authority: Bank	The degree to which the supervisory authority is protected by the legal system from the banking industry.	0–1	Higher scores indicate greater independence. Yes = 0; No = 1.	2.2.2.1 Can individual supervisory staff be held personally liable for damages to a bank caused by their actions or omissions committed in the good faith exercise of their duties?
2.2.3 Independence of Supervisory Authority: Fixed Term	The degree to which the supervisory authority can make decisions independent of political considerations.	0–1	Higher scores indicate greater independence. A fixed term of four years or greater = 1; less than four years or no fixed term = 0.	2.2.3.1 Does the head of the supervisory agency have a fixed term? 2.2.3.2 If yes, how long is the term?

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Annex Table 10.1. Information on Bank Regulatory and Supervisory Indicators (continued)

Variable	Definition	Range of Scores	Quantification	Question
3. Market Discipline				
3.1 Accounting Practices	Whether bank accounting practices are in accordance with International Financial Reporting Standards (IFRS) or U.S. Generally Accepted Accounting Principles and Standards (GAAP and GAAS).	0–1	Higher scores indicate better practices. If both are yes = 1; Otherwise = 0. 3.1.1 or 3.1.2	3.1.1 Are applicable accounting standards for banks in your country prepared in accordance with IFRS? a. At the individual bank level b. At the consolidated level 3.1.2 Are applicable accounting standards for banks in your country prepared in accordance with U.S. Generally Accepted Accounting Principles? a. At the individual bank level b. At the consolidated level
3.2 Strength of External Audit	The effectiveness of external audits of banks.	0–7	Higher scores indicate better strength of external audit. For questions 3.2.1, 3.2.2, 3.2.4, 3.2.5, 3.2.6, and 3.2.7: Yes = 1; No = 0. For question 3.2.3: a = 0; b or c = 1. 3.2.1 + 3.2.2 + 3.2.3 + 3.2.4 + 3.2.5 + 3.2.6 + 3.2.7	3.2.1 Are specific requirements for the extent or nature of the audit spelled out? 3.2.2 Do supervisors receive a copy of the auditor's report on the financial statements? 3.2.3 Does the banking supervisor have the right to meet with the external auditors and discuss their report without the approval of the bank? a. No b. Yes, it happens on a regular basis c. Yes, it happens on an exceptional basis

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Annex Table 10.1. Information on Bank Regulatory and Supervisory Indicators (continued)

Variable	Definition	Range of Scores	Quantification	Question
				<p>3.2.4 Are auditors required to communicate directly to the supervisory agency any presumed involvement of bank directors or senior managers in illicit activities, fraud, or insider abuse?</p> <p>3.2.5 In cases where the supervisor determines that the bank has received an inadequate audit, does the supervisor have the powers to take actions against the external auditor?</p> <p>3.2.6 Is an audit by a professional external auditor required for all commercial banks in your jurisdiction?</p> <p>3.2.7 If yes, does the external auditor have to obtain a professional certification or pass a specific exam to qualify as such?</p>
3.3 Financial Statement Transparency	The transparency of bank financial statement practices.	0–4	Higher scores indicate better transparency. For questions 3.3.1(a), 3.3.1(b), 3.3.2, and 3.3.3: Yes = 1; No = 0. 3.3.1(a) + 3.3.1(b) + 3.3.2 + 3.3.3	<p>3.3.1 Do banks disclose to the public:</p> <p>a. Off-balance-sheet items?</p> <p>b. Governance and risk management framework?</p> <p>3.3.2 Are bank directors legally liable if information disclosed is erroneous or misleading?</p> <p>3.3.3 Are banks required to prepare consolidated accounts for accounting purposes?</p>
3.4 External Ratings and Creditor Monitoring	Evaluations by external rating agencies and incentives for creditors of the bank to monitor bank performance.	0–3	Higher scores indicate better credit monitoring. Yes = 1; No = 0. 3.4.1 + 3.4.2 + (1 if 3.4.3 = 100%; 0 otherwise)	<p>3.4.1 Are commercial banks required by supervisors to have external credit ratings?</p> <p>3.4.2 Is subordinated debt allowed to be part of Tier 2 capital?</p> <p>3.4.3 How many of the top 10 banks are rated by international credit rating agencies?</p>

Source: Prepared by the authors based on Barth, Caprio, and Levine (2013).

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Financial Development in the Caribbean

Thorsten Beck and Henry Mooney¹

An expansive literature has established the importance of deep, accessible, and efficient financial systems for economic development and poverty alleviation. Even though there is significant heterogeneity in this relationship across countries, the empirical evidence on the relationship between financial depth and economic growth points, on average, to a positive association. There is strong and mounting evidence that deeper and more efficient financial systems help to increase growth and reduce poverty and income inequality. Countries with higher levels of financial development (e.g., as measured by private credit as a proportion of GDP) experience higher per capita income growth rates over the long run. Evidence also suggests that financial deepening can help create jobs, particularly for developing countries, and that financial liberalization can lead to increased labor market participation, especially among low-skilled workers. There is also increasing evidence that financial development can help reduce income inequality and poverty. As in the case of finance and growth, the relationship does not necessarily come through a larger share of the population with access to credit, but rather through financial deepening that results in labor and product market effects that positively affect the poorer segments of the population.

Across the globe, financial systems have different structures (banks, nonbank financial institutions, public capital markets), ownership patterns (private versus government-owned, domestic versus foreign-owned), and institutional and regulatory structures. These differences can be important for the various dimensions of financial development, including financial depth (overall volume of financial services provided to the economy), financial access (the ability of firms or various segments of the population to use financial services), and financial efficiency and stability.

¹ The authors would like to thank María Alejandra Zegarra of the Inter-American Development Bank for her excellent research assistance.

This chapter presents new data, metrics, and methods to assess the level of financial development in the six countries that are members of the Inter-American Development Bank's (IDB) Caribbean Country Department—The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago—referred to from here on as the Caribbean countries. In this context, the assessment focuses on three broadly acknowledged pillars of financial development: depth, access, and efficiency. The analysis looks to determine whether financial sectors in these countries can meet demand, particularly from firms, and what specific factors may act as constraints. Based on these findings, recommendations are put forward that may help support faster financial development in relevant jurisdictions.

To this end, an array of existing cross-country and country-specific data are used and new approaches are developed to (1) consider financial depth, access, and a new measure of adequacy (particularly for firms); (2) assess the level of financial development and the structure of financial systems for Caribbean countries; and (3) develop a new benchmark for countries' financial system structures and performance relative to a global sample, while taking into account country-specific characteristics. Different barriers to further sustainable deepening—both as they relate to policies and structural factors—are also discussed.

The analysis suggests that several Caribbean countries have deficits in terms of financial development. These countries tend to have private credit markets that are considerably shallower than many peers at similar levels of income and development. On measures of access, firms in many of these countries report less use of basic funding instruments (e.g., for either investment or operating capital) than peer countries. In this context, the analysis considers the sufficiency of finance (e.g., relative to demand). A new measure of financing adequacy is developed that suggests that firms in four of the six countries analyzed—The Bahamas, Jamaica, Suriname, and Trinidad and Tobago—are unable to secure sufficient credit.

With respect to the structure of financial systems, the statistical analyses point to a contrasting picture. Banking systems across the Caribbean are smaller than predicted by the countries' socioeconomic characteristics, while insurance (especially life insurance) sectors are substantially larger than predicted. The Caribbean countries with stock exchanges (and available data) host capital markets that are larger but less liquid than predicted. Among the main constraining barriers is the small size of the economies, which impedes the exploitation of scale economies in financial service provision.

These findings suggest the need for further research into structural and other factors driving the deficits identified, as well as some more immediate measures with the potential to support faster financial development. At the

macro level, these include sustainable macroeconomic policies to reduce inflation, stabilize exchange rates, and avoid debt overhang and crowding out of private investment. Within the financial system, there is a need to implement sound regulatory and other reforms to stimulate healthy competition in order to reduce costs and incentivize banks to seek out new clients. There is also a need to create and strengthen institutions for the collection and sharing of credit and risk information. Finally, it is imperative to implement improvements in judicial and other institutions critical to enforcing contracts, protecting property rights, and resolving insolvency.

11.1. Definition and Relevance of Financial Development

Financial institutions and markets fulfill several critical functions in modern economies. They enable transactions across space and over time, thus facilitating the division of labor and specialization in the economy; pool savings and intermediate them to enterprises and households in need of external funding; screen borrowers and their projects and monitor them, thus deciding where a society's scarce resources are being invested; reduce liquidity risk for savers by allowing them ready access to their funds while investing the same resources for long-term purposes; and enable cross-sectional and intertemporal risk diversification.²

This chapter focuses on financial development in Caribbean countries. The concept of financial development has different facets as well as several linked concepts that are important for economic performance. For tractability, the focus is on three broadly acknowledged pillars of financial development—depth, access, and efficiency (see Box 11.1).³

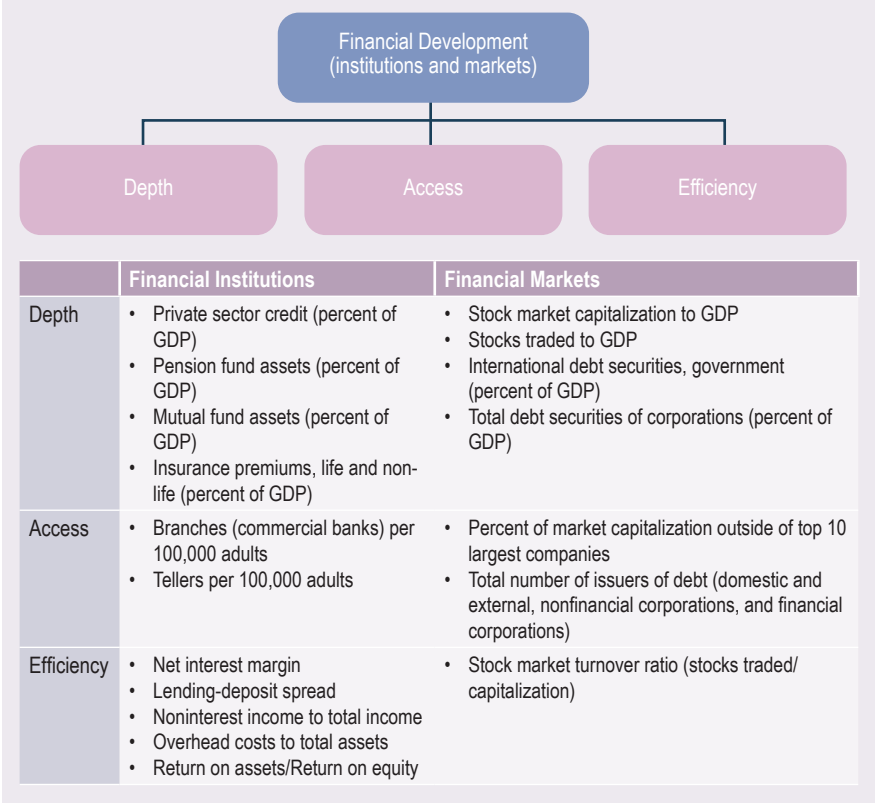
Financial development, in a general sense, describes the degree to which financial institutions and markets in a particular jurisdiction can satisfy the needs of both private and public users, including via financial instruments and services. These instruments and services include, inter alia, savings and credit (e.g., loans), securitized assets (e.g., debt and equity), synthetic instruments (e.g., futures, forwards, swaps, options, etc.), and other financial services (e.g., pensions, insurance, etc.). Financially developed systems are characterized by the availability of short- and long-term instruments and a range of different markets and institutions.

Financial depth generally refers to the size and liquidity of financial sectors relative to the size of the economies that they serve. Relevant measures differ depending on whether the focus is on institutions (e.g., banks) or public

² See Levine (2005) for an extensive discussion.

³ For a broader discussion of related concepts, see Čihák et al. (2012).

BOX 11.1. FINANCIAL DEVELOPMENT—SELECTED SUBCOMPONENTS AND INDICATORS



Source: Based on Čihák et al. (2012) and Mooney (2015), and particularly on inputs to the World Economic Forum’s Financial Development Index.

markets (e.g., debt or equity markets). One important measure—particularly for developing countries—is the amount of outstanding financial intermediary claims on private domestic nonfinancial corporations and households relative to the size of the economy (i.e., relative to GDP). These and related issues are discussed in section 11.3, and particularly in sections 11.3.1 and 11.3.2.

The concept of *financial access* focuses on the degree to which market participants—particularly individuals, households, and enterprises—can make use of financial products and services. Measures of access can include physical accessibility to institutions for individuals, households, and/or small enterprises, as well as metrics capturing the degree to which smaller corporates are able to access securitized funding from debt or equity markets. Related concepts—including financial adequacy—are discussed in section 11.3, and particularly in sections 11.3.3 and 11.3.4.

Efficiency is a broad concept, capturing the degree to which institutions and markets are able to sustainably provide financial services demanded by customers at costs that make them both attractive and accessible, particularly for more vulnerable or marginal groups (e.g., individuals or smaller, less established firms). Related measures include those linked to financial institutions (e.g., revenues, profit margins, operating costs, and returns to their owners and investors), as well as market-related indicators of liquidity (e.g., stock market turnover ratios). Efficiency, particularly as it relates to the proposed financial development frontier, is considered in detail in section 11.6.

Data, diagnostics, and related recommendations outlined in this chapter will focus largely on these concepts outlined above.

11.2. Finance and Economic Development—What Does the Global Evidence Tell Us?

The empirical evidence on the relationship between financial depth and growth clearly points, on average, to a positive role of financial development in the economic development process. There is strong and mounting evidence that deeper and more efficient financial systems help increase growth and reduce poverty and income inequality. While an exhaustive survey of the literature is beyond the scope of this chapter, some of the most relevant findings are outlined below.

11.2.1. Implications for Growth Performance

An expansive literature has documented a positive relationship between financial and economic development—particularly with respect to incomes. Specifically, countries with higher levels of financial development (e.g., as measured by private credit as a proportion of GDP) experience higher per capita income growth rates over the long run.⁴ This relationship is not only a correlation, but holds even after one controls for reverse causation (i.e., faster-growing economies having a higher demand for financial services) and third factors driving both financial development and growth. The positive relationship between financial and economic development is strongest among middle-income countries, while it becomes much more tenuous for high-income countries (Rioja and Valev 2004a, 2004b).

The positive impact of financial development on output growth comes mainly through more effective resource allocation and higher productivity growth, rather than through capital accumulation, and more through

⁴ See Levine, Loayza, and Beck (2000) and Beck and Levine (2004). See Popov (2018) for a survey of empirical literature.

enterprise rather than household credit (Beck, Levine, and Loayza 2000; Beck et al. 2008). This is confirmed by an expansive literature using micro data that shows that financial deepening has positive effects on firm-level innovation and entrepreneurship, with a disproportionately beneficial effect for small and medium-sized enterprises (SMEs).⁵ For this reason, when considering challenges facing developing countries, it is important to focus on the degree to which the private sector, and firms in particular, are able to access financial services. Similarly, the availability of other financial services is also crucial for the development of credit markets—for example, lenders often require would-be borrowers to have insurance against the impact of unforeseen events (e.g., theft, fire damage, natural disasters, etc.) in order to secure funding at reasonable costs.⁶ It follows, therefore, that the benefits of financial deepening are likely to depend on the regulatory climate more generally. That is the larger the entry barriers that it imposes on the private sector, the less responsive will resource allocation and productivity be to the greater availability of credit.

To put this relationship in context, Figure 11.1 shows the positive association between financial development and economic growth with a simple partial correlation. In the absence of data on the efficiency with which financial institutions and markets fulfill the functions discussed above, researchers have used proxy variables for financial development, most notably the ratio of private credit to GDP, which reflects the total claims of financial institutions in a country on domestic households and nonfinancial corporations.⁷ Figure 11.1 shows a positive relationship between private credit and real GDP per capita growth, with data averaged over 1980–2007. The figure also shows considerable variation in the level of financial development across the countries in the sample, a point that will be discussed below. It is important to stress that an extensive literature has shown that the relationship between financial and economic development is robust to controlling for reverse causality and omitted variable bias (see Popov [2018] for a recent survey).

11.2.2. *Other Development-Related Implications*

Emerging research also finds strong positive linkages between financial development and a wide range of other development-related outcomes

⁵ See Ayyagari, Demirgüç-Kunt, and Maksimovic (2008), Beck, Demirgüç-Kunt, and Maksimovic (2005), and Beck et al. (2008).

⁶ See Bernales et al. (2019) for evidence of the deleterious effects of blue-collar crime suffered by Caribbean firms on their future accessibility to external financing and its terms (i.e., interest rates and loan amounts).

⁷ Includes funds provided to the private sector by financial corporations (e.g., loans, nonequity securities, trade credit, etc.).

Figure 11.1. Finance and Growth (1980–2007)

Sources: World Bank and authors' calculations.

Note: One dot represents one country. The figure shows a partial scatter plot of private credit to GDP and GDP per capita growth averaged over 1980–2007, controlling for initial GDP per capita, government consumption, inflation, trade openness, and education.

from across the spectrum. A few key findings of particular relevance for Caribbean countries are worth noting.

Job Creation

There is increasingly significant evidence that financial deepening can help create jobs. For example, at the aggregate level, Pagano and Pica (2012) show a positive and significant relationship between financial development and job creation in developing countries. For the United States, Beck, Levine, and Levkov (2010) and Benmelech, Bergman, and Seru (2011) show that branch deregulation and consequent financial liberalization led to decreases in unemployment and increased labor market participation, especially among low-skilled workers. Giné and Townsend (2004) show for Thailand that financial liberalization has contributed to migration of subsistence agricultural workers into urban salaried jobs.

Income Inequality and Poverty

There is also increasing evidence that financial development can help reduce income inequality and reduce poverty rates. Beck, Demirgüç-Kunt,

and Levine (2007) and Clarke, Xu, and Zou (2006) show a negative relationship between financial development and income inequality, while Beck, Levine, and Levkov (2010) show a negative relationship between financial liberalization and income inequality in the United States. Giné and Townsend (2004) and Ayyagari, Beck, and Hoseini (forthcoming) show a negative relationship between financial development and poverty in Thailand and India, respectively. Figure 11.2 shows a negative association between financial development (again measured by private credit to GDP) and the growth of the population share living on less than US\$1 a day, a standard measure of poverty. As shown by Beck, Demirgüç-Kunt, and Levine (2007), this relationship is robust to controlling for reverse causality and omitted variable bias. As in the case of finance and growth, the relationship does not necessarily come through a larger share of the population with access to credit, but rather through financial deepening resulting in labor and product market effects that positively affect the poorer segments of the population.

11.2.3. Link to the United Nations Sustainable Development Goals

Financial development is also considered to be among the most important building blocks for achieving the 2030 United Nations Sustainable Development Goals (SDGs). Indeed, financial development is related to targets associated

Figure 11.2. Finance and Poverty Alleviation (1980–2007)



Sources: World Bank and authors' calculations.

Note: One dot represents one country. The figure shows a partial scatter plot of private credit to GDP and the change in the population share living on less than US\$1 a day (referred to as the "headcount" in the figure) averaged over 1980–2007, controlling for initial GDP per capita, government consumption, inflation, trade openness, and education.

with at least eight (boldfaced in Table 11.1) of the 17 goals. These include SDG-1 on eradicating poverty; SDG-2 on ending hunger, achieving food security, and promoting sustainable agriculture; SDG-3 on improving health and well-being; SDG-5 on achieving gender equality and economic empowerment of women; SDG-8 on promoting economic growth and jobs; SDG-9 on supporting industry, innovation, and infrastructure; and SDG-10 on reducing overall income inequality. In addition, in SDG-17 on strengthening the means of implementation, there is also an implicit role for greater financial inclusion through greater savings mobilization for investment and consumption that can spur growth.

11.3. Financial Depth, Access, and Adequacy in the Caribbean

This section discusses the variation across Caribbean countries in financial depth and access, drawing on an array of different data sources. Two of the

Table 11.1. United Nations Sustainable Development Goals

Goal 1.	End poverty in all its forms everywhere.
Goal 2.	End hunger and achieve food security and improved nutrition and promote sustainable agriculture.
Goal 3.	Ensure healthy lives and promote well-being for all at all ages.
Goal 4.	Ensure inclusive and equitable quality education, and promote lifelong learning opportunities for all.
Goal 5.	Achieve gender equality and empower all women and girls.
Goal 6.	Ensure availability and sustainable management of water and sanitation for all.
Goal 7.	Ensure access to affordable, reliable, sustainable, and modern energy for all.
Goal 8.	Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.
Goal 9.	Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.
Goal 10.	Reduce inequality within and among countries.
Goal 11.	Make cities and human settlements inclusive, safe, resilient, and sustainable.
Goal 12.	Ensure sustainable consumption and production patterns.
Goal 13.	Take urgent action to combat climate change and its impacts.
Goal 14.	Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.
Goal 15.	Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
Goal 16.	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels.
Goal 17.	Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Source: United Nations Sustainable Development Knowledge Platform.

countries analyzed here, The Bahamas and Barbados, have onshore and offshore financial sectors. Offshore financial services are provided to non-residents but provide jobs and government revenue for their respective economies. For example, 0.6 percent of total employees in The Bahamas work in the offshore financial sector, and it contributes 4.5 percent to total government revenue. In Barbados, the offshore financial sector contributes 0.7 percent to total government revenue. It is important to stress, however, that offshore financial centers do not have the intermediation and support function for local economies.

In terms of the regulatory structure, in all six Caribbean countries the central bank is responsible for banking supervision. Except for Suriname, countries have separate supervisory agencies for insurance companies, pension funds, and public capital markets. For a more detailed discussion on financial regulation see Chapter 10 in this volume.

11.3.1. *Financial Depth across Caribbean Countries*

In this context, the ratio of domestic private credit to GDP in 2016/2017⁸—perhaps the most common indicator of sector depth—ranges from as high as 56 percent for Barbados to as low as 33 percent for Jamaica (Table 11.2). Caribbean countries compare poorly with the average for all high- and middle-income countries for which data were available on this indicator, which stood at 149 percent and 99 percent, respectively.⁹ In terms of regional comparisons, Caribbean countries also fare poorly when compared to more advanced regions, including Asia and the Pacific, Europe, and the Middle East and North Africa. Only The Bahamas and Barbados have deeper financial sectors than the Latin American and Caribbean (LAC) average of 49 percent.

Some countries have seen the pace of financial deepening accelerate considerably since the 1990s, while other countries have remained stagnant. The Bahamas and Barbados have experienced considerable private credit growth (measured as a proportion of GDP) since the 1980s, in line with an expansion of offshore financial services. For Guyana, Trinidad and Tobago, and Suriname, market depth has oscillated appreciably over the period owing to fluctuations in both the numerator and denominator of

⁸ Based on World Bank and International Monetary Fund data.

⁹ Income groups are defined per the World Bank's definition. As of July 1, 2018, low-income economies are defined as those with a GNI per capita of US\$995 or less in 2017; middle-income economies are those with a GNI per capita between US\$996 and US\$12,055; and high-income economies are those with a GNI per capita of US\$12,055 or more.

Table 11.2. Income and Financial Depth, 2016–2017 (per capita GDP versus private-credit-to-GDP ratio)

Country	Per Capita GDP (current U.S. dollars)	Private-Credit-to-GDP Ratio (percent)
United States	59,928.0	198.9
East Asia & Pacific	10,333.0	149.8
High-income	42,346.0	148.8
Organisation for Economic Co-operation and Development	38,408.0	147.2
Middle-income	5,229.0	98.9
European Union	33,864.0	95.0
Panama	15,166.0	87.1
Pacific island small states	4,081.0	73.0
Small states	12,125.0	69.4
St. Lucia	10,003.0	65.0
Bolivia	3,351.0	64.5
Costa Rica	11,753.0	61.6
Brazil	9,881.0	59.8
Middle East and North Africa	7,422.0	59.2
Honduras	2,433.0	57.5
Barbados	16,328.0	56.0
Belize	4,957.0	54.0
Dominica	6,951.0	53.6
St. Kitts and Nevis	19,061.0	52.5
The Bahamas	31,858.0	52.2
El Salvador	3,902.0	51.5
Grenada	10,164.0	51.0
St. Vincent and the Grenadines	7,150.0	50.2
Colombia	6,376.0	49.8
Latin America and the Caribbean	9,398.0	48.8
Sub-Saharan Africa	1,599.0	47.1
Guyana	4,586.0	45.5
Antigua and Barbuda	15,825.0	45.0
Nicaragua	2,168.0	42.5
Peru	6,701.0	42.5
Paraguay	5,681.0	40.5
Trinidad and Tobago	16,076.0	40.2
Mexico	9,281.0	35.3
Guatemala	4,471.0	33.3
Suriname	5,379.0	33.1
Jamaica	5,061.0	32.5

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Table 11.2. Income and Financial Depth, 2016–2017 (per capita GDP versus private-credit-to-GDP ratio) (continued)

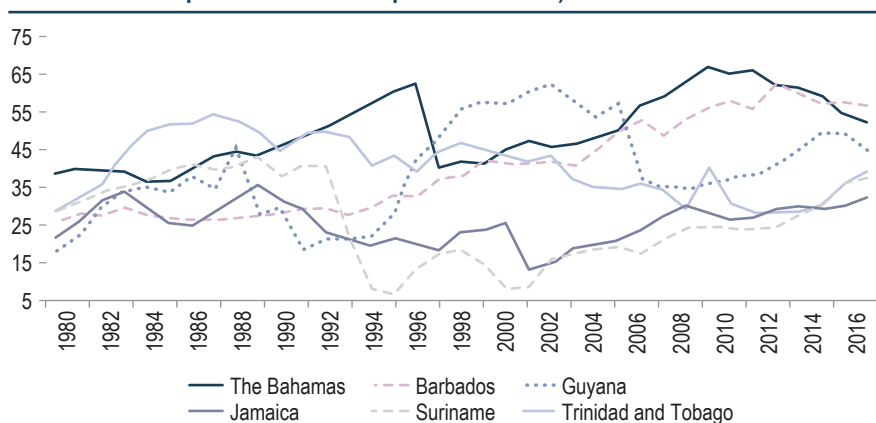
Country	Per Capita GDP (current U.S. dollars)	Private-Credit-to-GDP Ratio (percent)
Ecuador	6,214.0	32.3
Dominican Republic	7,223.0	28.7
Uruguay	16,437.0	26.1
Low-income	767.0	20.7
Haiti	766.0	17.6
Argentina	14,592.0	16.0

Sources: World Bank, World Development Indicators databases; and relevant International Monetary Fund (IMF) staff reports.

Note: Private-credit-to-GDP ratios reflect the latest available data point from either 2016 or 2017.

this ratio. Credit market development has, however, been stalled since 1980 for both Jamaica and Suriname (Figure 11.3).

Determining the drivers of these and related outcomes is a difficult task, with both similar challenges and considerable differentiation apparent across Caribbean countries. What is clear is that policies and exogenous shocks have influenced financial development in all cases, but that other geographic, demographic, structural, and socioeconomic factors have also had implications. For example, high debt levels and substantial government borrowing have constrained private credit and financial development in several Caribbean countries, resulting in considerable crowding out of private financing in some countries (see Box 11.2 regarding the example of Jamaica).

Figure 11.3. Financial Deepening in Caribbean Countries, 1980–2016 (credit to the private sector as a percent of GDP)

Sources: World Bank, World Development Indicators; International Monetary Fund, World Economic Outlook database; and authors' calculations.

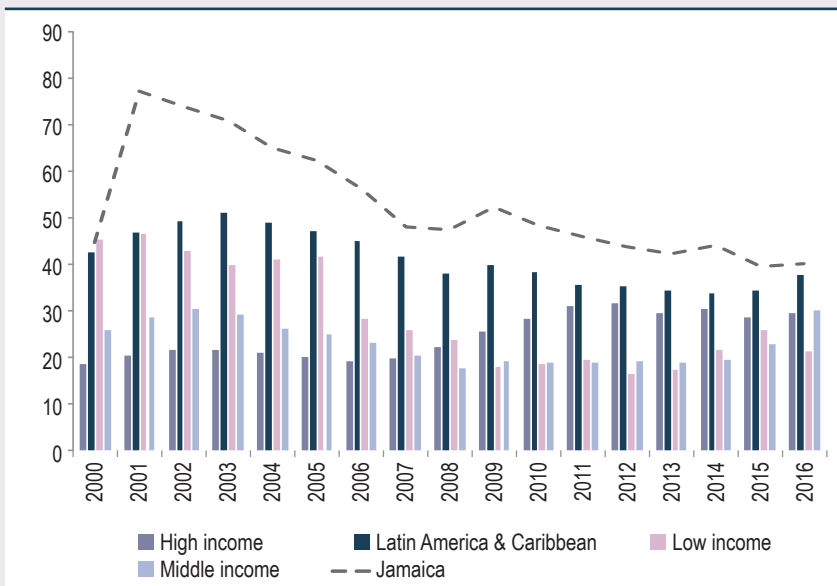
11.3.2. Financial Structure and Nonbank Finance

As noted above, financial systems consist of different segments, with markets tending to be centered on banks and other credit providers at their core, and public capital markets and contractual savings institutions representing more evolved segments of the system. While different segments may serve a variety of clients and purposes, their functions in terms of

BOX 11.2. GOVERNMENT DOMESTIC FINANCING IN JAMAICA: HISTORY OF CROWDING OUT

Lack of fiscal discipline, high public debt, and resulting difficulties in maintaining continuous access to external credit markets forced the Jamaican government to rely for many years on domestic financial markets—particularly the banking system—to meet a large proportion of its funding needs. Given the limited size of the domestic credit market, this heavy reliance resulted in a crowding out of private financing, as banks and other lenders allocated most of their credit capacity to the government.

Figure 11.2.1. Public Sector Financing as a Share of Total Domestic Credit, 2000–2016 (percent)



Sources: World Bank, World Development Indicators database; International Monetary Fund, World Economic Outlook database; and authors' calculations.

Note: Calculated as the percentage of total domestic financing absorbed by the public sector.

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BOX 11.2. GOVERNMENT DOMESTIC FINANCING IN JAMAICA: HISTORY OF CROWDING OUT *(continued)*

Of the Caribbean countries assessed in this chapter, Jamaica had the highest average share of domestic financing provided to the public sector from 2000 to 2016 (53 percent). This was also much higher than the average for other countries in the Latin America and Caribbean region (41 percent), and middle-income economies (23 percent). From 2001 to 2006, government crowding out in Jamaica reached as high as 77 percent, and averaged over 70 percent between 2001 and 2005. Put another way, there were periods during which as little as about one-fifth of domestic credit capacity was available to the private sector for borrowing and investment. For a broader discussion of related issues facing Jamaica, see Mooney (2018).

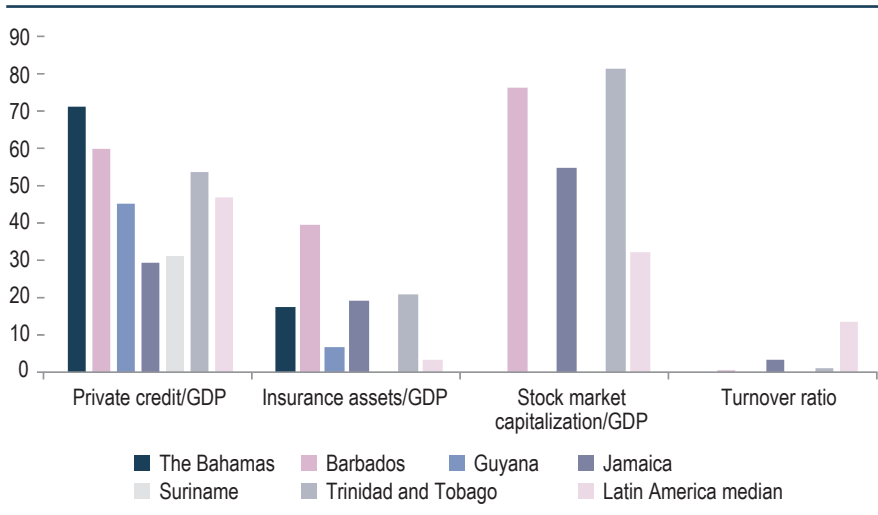
intermediating savings and managing risks for the economy are similar. As economies develop, the structure of the financial system also develops (Demirgüç-Kunt, Feyen, and Levine 2012). At very rudimentary levels of financial development, banks dominate the financial system, focusing on payment, short-term deposits, and short-term lending services. As financial systems deepen, other segments arise, including insurance companies and other private nonbank intermediaries. At a later stage, public equity and debt markets develop.

This sequencing has also been observed to varying degrees for the Caribbean countries, with banks tending to occupy a dominant position in their respective markets (Figure 11.4). All three Caribbean countries for which data were available have stock exchanges of reasonable size (relative to GDP), though they are highly concentrated in terms of the number of issuing firms, and then tend to be illiquid. Specifically, market capitalization (value of all outstanding shares) relative to GDP is relatively high, while the turnover ratio (trading volume relative to market capitalization) is very low. There are few companies listed—as of 2017, 18 companies in Barbados, with a declining trend, 36 in Jamaica, and 30 in Trinidad and Tobago. Private bond markets are even less developed.¹⁰

Four of the six countries have large insurance sectors that are dominated by life insurance rather than general or non-life insurance companies, pointing to the importance of insurance companies in the contractual

¹⁰ Regionalization has often been advocated as a strategy for capital market deepening, which is also behind the Mercado Integrado de Latinoamerica initiative of the Alianza del Pacífico (Chile, Colombia, Peru, and Mexico) that allows for cross-trading. However, according to market participants, this option has not yet resulted in a significant take-up.

Figure 11.4. Finance Development Indicators for Caribbean Countries, 2017 (percent)



Source: World Bank, Global Financial Development Data.

savings industry in these economies. This is also confirmed by relatively high life insurance penetration ratios (insurance premium volume to GDP). There is also a certain interlinkage between banking and insurance sectors in some of the economies. As in other Latin American countries, the financial system is dominated by conglomerates, with separate subsidiaries active in different financial sector segments, raising challenges for consolidated supervision. In Suriname, for example, the largest insurance company (Assuria) is part owner of two of the largest banks, with an investment company as a subsidiary and an important role on the stock exchange.

The importance of the insurance segments within the financial system is also confirmed by the collapse in 2009 of the CL Financial Limited insurance company based in Trinidad and Tobago. Several of its subsidiaries had offered deposit-like annuity products (which offered substantially higher returns than bank deposits), channeling them to over-leveraged sister companies and real estate developments that suffered during the 2008 global financial crisis. The collapse of the company had spillover effects throughout the Caribbean, including in Barbados, The Bahamas, Guyana, and Suriname, though not in Jamaica. This crisis has reinforced the importance of proper insurance regulation and supervision in the region and the stability repercussions of a sizable insurance sector interconnected with the rest of the financial system.

11.3.3. *Financial Access in Caribbean Countries*

Firms from Caribbean countries report strong outcomes in terms of their use of basic savings products. For example, responses to the World Bank Enterprise Survey (WBES) suggest that most Caribbean country firms have established checking and/or savings accounts (99 percent) in proportions that exceed the average for all WBES-reporting firms from 143 countries globally (88 percent), as well as the average for Latin America (93 percent).¹¹ Conversely, indicators of credit utilization suggest deficits in several Caribbean countries. Firms in Jamaica, The Bahamas, and Suriname fall short of global and/or regional averages (Figure 11.5).

While important, these and other measures of usage can only partially answer the question of whether firms have adequate financial access. Moving from the concept of “usage” to “adequacy of finance” makes it necessary to consider the concept of demand.

11.3.4. *“Firm Financing Gap”—A New Measure of Financial Adequacy*

The concept of financial access extends well beyond access to basic credit and should include, inter alia, access to funding via public capital market instruments such as debt (i.e., bonds) and equities (i.e., stock), as well as the use of synthetic instruments for either funding or hedging and portfolio optimization purposes. However, the ability to access loans and lines of credit represents the base of the financial pyramid in most countries. Any deficit in these areas represents a strong indication of broader challenges regarding the ability of the local financial market to satisfy the needs of firms and/or households. Put another way, if firms do not have adequate access to loans and credit lines, they are unlikely to be able to use more sophisticated funding sources with any degree of sufficiency or reliability.

With this in mind, this chapter develops a new measure of credit adequacy based on responses to enterprise surveys. The measure—called the “firm financing gap”—is calculated as the difference between firms reporting having secured a loan or line of credit (i.e., having secured access), and those reporting an external financing need (i.e., desiring access).¹² As the sample of survey respondents is static—that is, the same respondents

¹¹ See the WBES of firms in emerging market economies (www.enterprisesurveys.org).

¹² More specifically, the firm financing gap equals the proportion of firms reporting that they had secured a loan or line of credit minus the proportion of firms reporting having had a financing need. The data used are from the World Bank Enterprise Surveys. In all cases the latest data available are used.

Figure 11.5. Use by Firms of Basic Financial Services (percentage of respondents)



Source: World Bank Enterprise Surveys (WBES) (latest available as of January 2020).

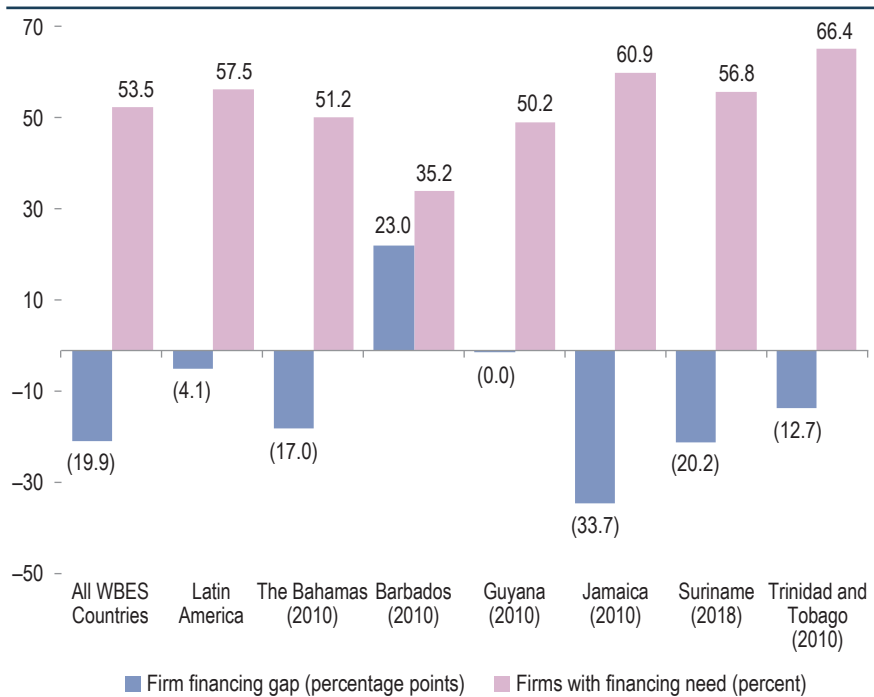
Note: "All WBES countries" refers to the 143 countries included in the WBES data.

to both questions—the proportion of responding firms unable to secure credit, despite a need or desire for funding, can be determined. Note that because of the survey design, this includes firms that chose not to apply for loans or lines of credit, given their perception that their applications would not have been approved. This measure is also likely to overestimate adequacy to some degree, as it will also include firms that were able to secure credit, but whose funding needs may have been greater than what they ultimately secured.

For the firm financing gap measure, a negative result indicates that more firms (as a proportion of respondents) expressed a demand for funding than were able to access credit. A positive number refers to cases where more firms were able to secure access to credit or a credit line than had indicated a need for funding. The latter could, for example, include the case of a firm that had previously secured a standing line of credit but did not have a current need to draw on the facility.

As outlined in Figure 11.6 and in Annex 11.2 (for global results), while Caribbean country firms reported financing needs in proportions similar to global averages, several countries (Jamaica, Suriname, The Bahamas, and Trinidad and Tobago) displayed a negative firm financing gap. Those countries with negative firm financing gaps all displayed gaps greater than the average for Latin American countries (-4 percentage points). This is considerably so for Jamaica and Suriname, with gaps of -34 percentage points and -20 percentage points, respectively. Conversely, Barbados and Guyana displayed non-negative financing gaps (23 and 0 percentage points, respectively), suggesting that at least with respect to credit, firms in these countries had sufficient access to funding, particularly when compared to regional averages and other Caribbean countries. In fact, Barbados was calculated to have the second largest positive firm financing gap of all countries for which data were available, behind only

Figure 11.6. Firm Financing Gaps



Source: World Bank Enterprise Surveys (latest available as of January 2020).

Note: The firm financing gap equals the proportion of firms reporting that they had secured a loan or line of credit minus the proportion of firms reporting having had a financing need. Positive results (i.e., Barbados and Guyana) indicate that more firms had secured loans or lines of credit than had reported a need for financing (vice versa for negative results). "All WBES countries" refers to the 143 countries included in the World Bank Enterprise Survey data. See Annex 11.1 for a list of country aggregates.

Slovenia, which displayed a marginally larger positive gap of 24 percent (Annex 11.2).

11.3.5. *Summary: Financial Depth, Access, and Adequacy in Caribbean Countries*

In summary, the analysis finds that Caribbean countries tend to compare poorly on positive measures of financial sector depth—that is, in nominal comparisons¹³—with similar countries from across the world. While access to basic savings products seems sufficient for firms across all six countries, these same firms report comparatively low levels of credit utilization. Turning from usage to adequacy of finance, a new measure of firm financing gaps developed here suggests that while Caribbean firms appear to have financing needs on par with global and regional averages, some countries have severe deficits with respect to adequacy.

11.4. Impediments to Financial Access for Firms in Caribbean Countries

The data and metrics discussed above point to financial access and adequacy deficits faced by some Caribbean countries. Survey data can also provide important insights into some of the drivers of these deficits. In this context, the World Bank's *Global Financial Development Report 2014: Financial Inclusion* provided an extensive analysis of impediments to financial access and inclusion for both firms and individuals from across the world (World Bank 2014).

11.4.1. *Reasons for Not Seeking or Securing Funding*

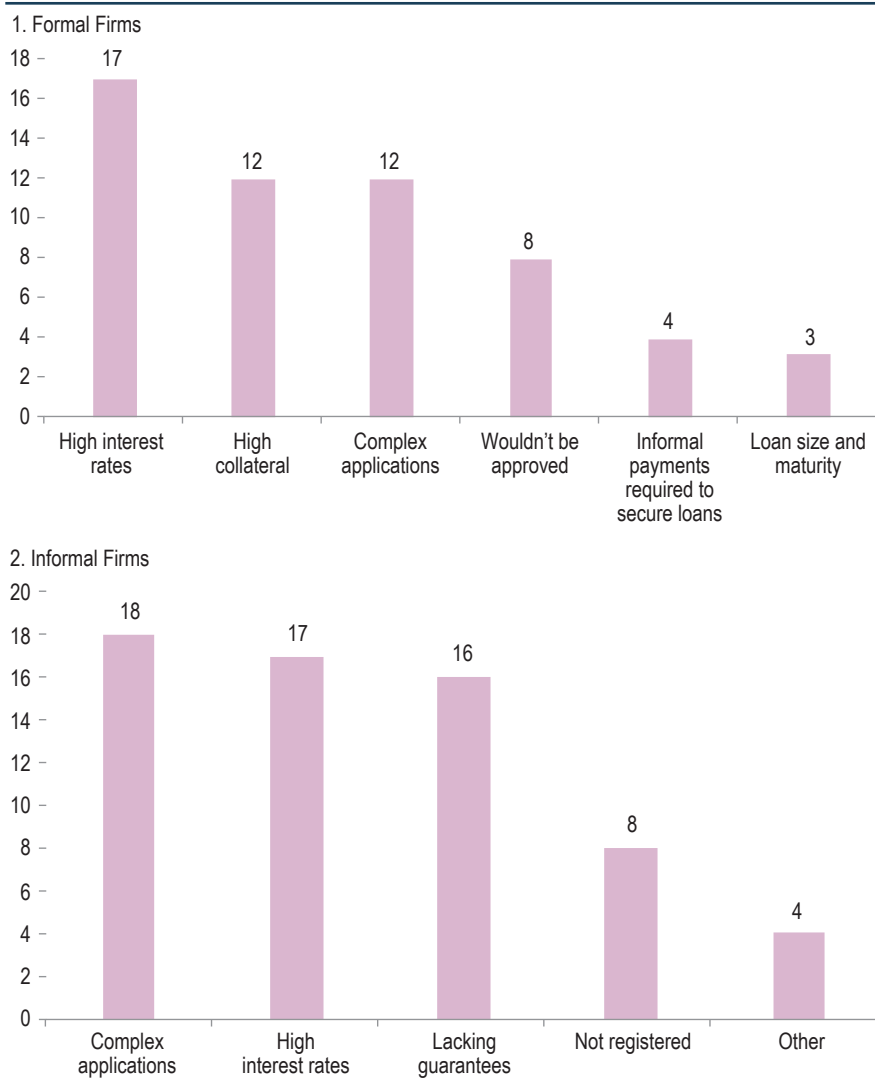
As highlighted in Figure 11.7, the World Bank's cross-country analysis and related survey responses suggest that across the countries surveyed, high costs (i.e., interest rates), complex application procedures, and the need for credit enhancements in the form of security (e.g., collateral or formal guarantees) are among the most common challenges facing firms seeking to borrow.¹⁴

¹³ Note that this analysis is taken a step further in section 11.6 by focusing on normative measures, particularly synthetic benchmarks focused on country-specific characteristics—that is, the financial depth frontier.

¹⁴ Note that responses relate to reasons for not applying for a loan, despite expressing a need or desire for funding.

Other significant barriers to financial access identified by the cross-country analysis included concerns over approval prospects, the need to provide informal payments (e.g., bribes) in order to secure loans, and loan size or maturities that were not aligned with firm requirements. Many of

Figure 11.7. Firms' Reasons for Not Applying for a Loan (percent of respondents)



Source: World Bank (2014).

Note: Respondents could choose more than one reason. The sample includes responses from firms in 13 countries from 2008 to 2011. "Other" refers to all other reasons not otherwise listed.

these impediments are relevant to both formal and informal firms in the Caribbean.¹⁵

11.4.2. *Collateral Requirements and Borrowing Costs*

As might be expected based on the results highlighted above, firms from the Caribbean countries responding to the 2014 Productivity, Technology and Innovation in the Caribbean (PROTEqIN) Enterprise Survey reported access to finance (e.g., collateral requirements or other contractual requirements) and the cost of credit (e.g., high interest rates) as among the most significant constraints that they face in terms of improving firm-level productivity and performance (Figure 11.8).¹⁶ In particular, well over a third of all firms surveyed in Jamaica and Barbados considered access to finance to be either a major or very severe obstacle. In addition, over a third of firms in Trinidad and Tobago, Guyana, and Jamaica felt similarly about the costs of finance. Other significant constraints commonly identified included the macroeconomic environment (e.g., inflation, exchange rates, and interest rates), tax rates and administration, competitor business practices, crime and disorder, electricity, and corruption. It is important to stress that some of these constraints are significantly correlated with the underperformance of the financial sector and thus firms' financing constraints.

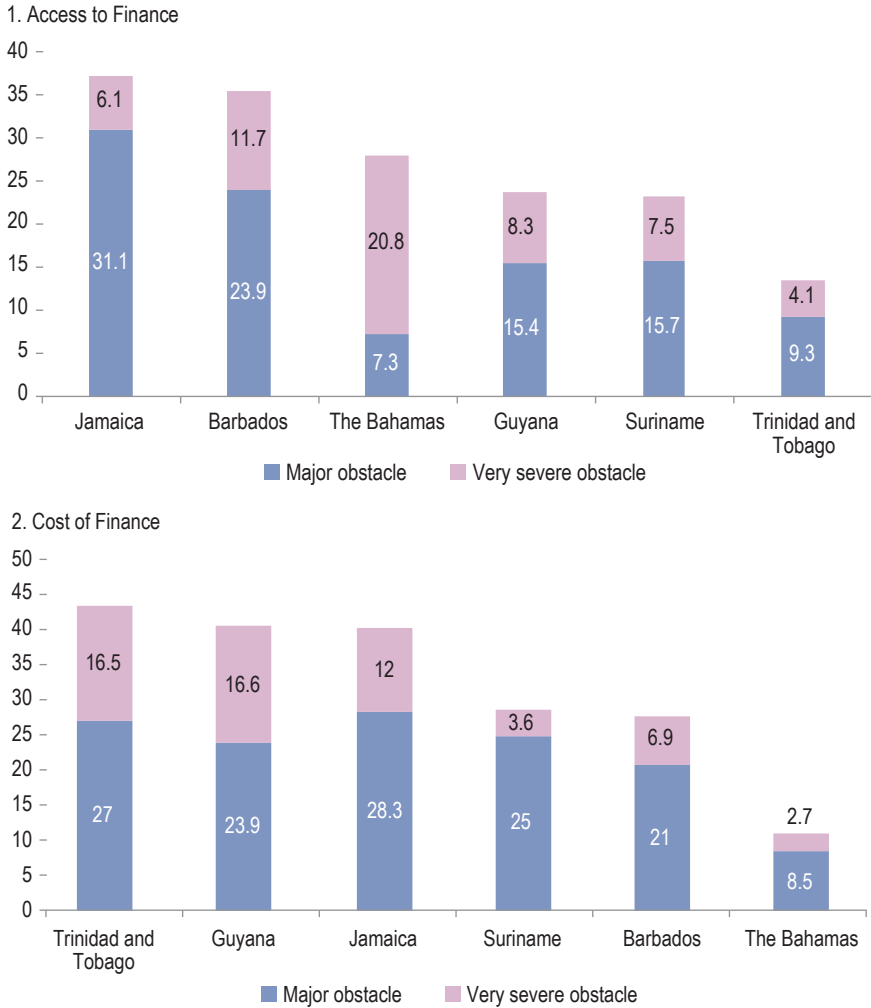
A further disaggregation of these data suggests that these impediments are more acute for small firms¹⁷—in some cases, by a considerable margin. This finding is consistent with broad cross-country evidence, and perhaps not surprising given that larger firms are likely to be better established, have more sophisticated treasury and financial management capacity, and be more likely to have assets to pledge as security—for example, physical and other forms of collateral such as buildings and machinery. Regardless of the underlying rationale, small firms in Jamaica, Guyana, and Barbados appear to consider access to finance a considerably more

¹⁵ Formal firms are generally defined as those that have been registered with authorities and are subject to applicable operating requirements as well as taxation. Informal firms are defined as those operating outside of the formal reporting and regulatory framework within a jurisdiction.

¹⁶ PROTEqIN is a Caribbean enterprise survey first undertaken as part of the World Bank's 2010 Latin American and Caribbean Enterprise Surveys, and last updated in 2014. The project was sponsored by Compete Caribbean, which is funded by the IDB, the UK's Department for International Development (DFID), and the government of Canada.

¹⁷ Small firms are defined as those with 20 employees or less, with large firms representing all other responses.

Figure 11.8. Key Obstacles to Firm Productivity and Performance (percent of firms for each country)



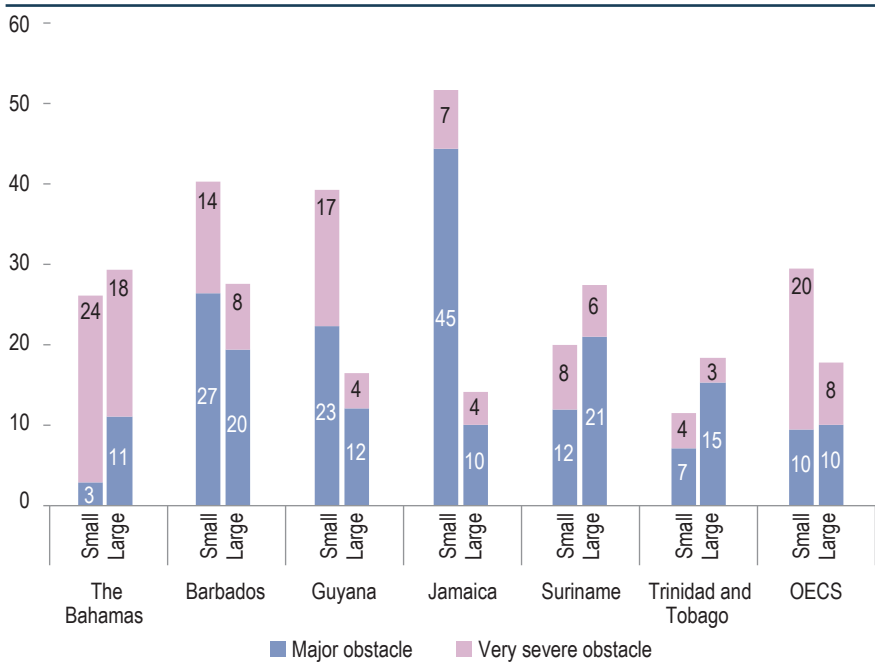
Source: Compete Caribbean, 2014 Productivity, Technology and Innovation in the Caribbean (PROTE-qIN) Enterprise Survey.

Note: Population results based on number of firms sampled in each country.

binding constraint. In the case of Jamaica, more than half of the small firms surveyed—four times the proportion for larger firms—considered this to be at least a major constraint on their ability to expand and become more productive (Figure 11.9).

A key issue reported by firms has been that would-be lenders required them to provide credit enhancements, including in the form of

Figure 11.9. Obstacles to Firm Productivity and Performance—Access to Finance by Firm Size (percentage of respondents)

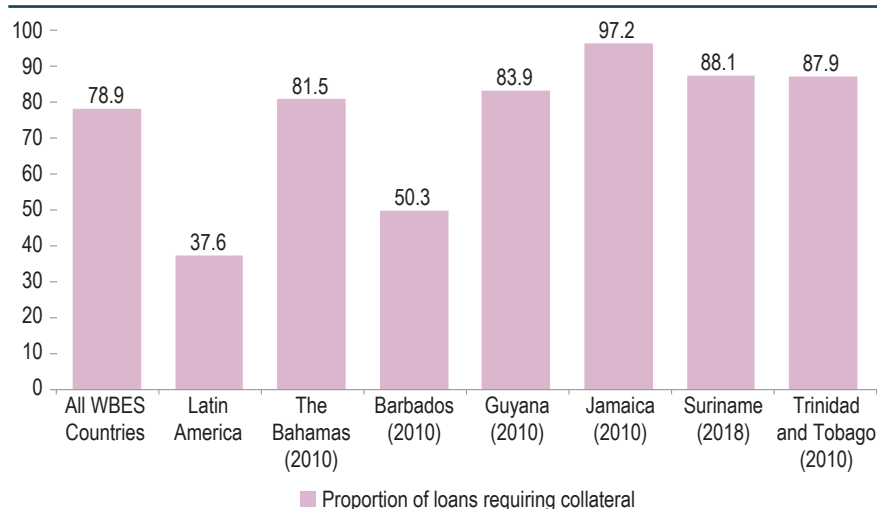


Source: Compete Caribbean, 2014 Productivity, Technology and Innovation in the Caribbean (PROTEqIN) Enterprise Survey.

Note: Organisation of Eastern Caribbean States (OECS) countries included in the composite index are Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines. The PROTEqIN survey does not have information for the rest of the OECS countries (i.e., the British overseas countries and territories of Anguilla, the British Virgin Islands, and Montserrat).

collateral or guarantees from third parties, in order to qualify for loans with maturities or cost characteristics that would meet their needs. The World Bank's WBES provides some insights into the magnitude and materiality of these constraints across Caribbean countries. For example, the proportion of loans requiring collateral for firms in Latin America is about 38 percent, compared to over 80 percent for five of the six Caribbean countries analyzed here, and as high as 97 percent in the case of Jamaica (Figure 11.10).

Similarly, small firms in Jamaica, Guyana, Barbados, and Trinidad and Tobago also considered the cost of finance to be a more significant hurdle to firm productivity and performance than their larger counterparts (Figure 11.11). As was the case for access to finance, in Jamaica this difference was particularly striking, with over half of small firms identifying high funding costs as either a major or very severe obstacle, which was more than twice the proportion of large firms reporting the same constraints.

Figure 11.10. Collateral Requirements (percent)

Source: World Bank Enterprise Surveys (latest available data as of January 2020).

Note: "All WBES countries" refers to the 143 countries included in the World Bank Enterprise Survey data. See Annex 11.1 for list of country aggregates referred to above.

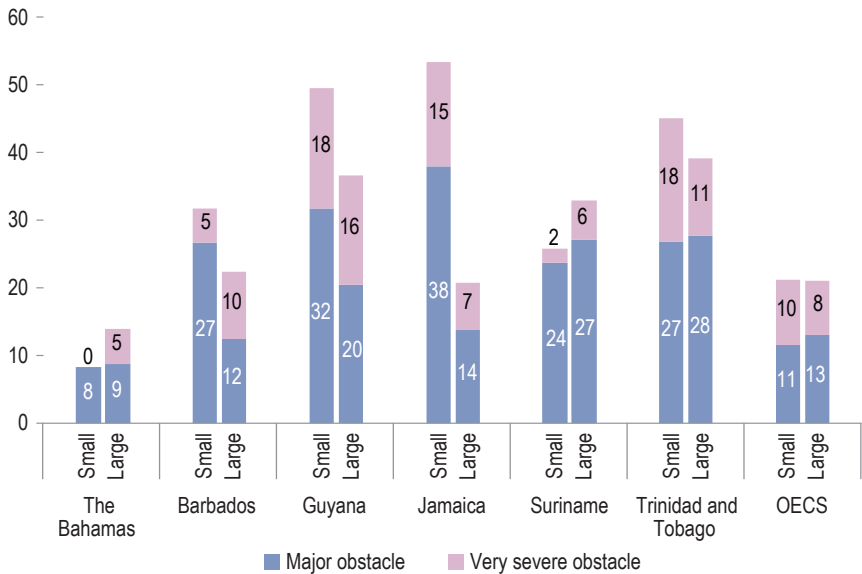
Other indicators related to the cost of credit corroborate survey responses for Caribbean countries. For example, a banking sector characterized by wide spreads between deposits and the interest charged on its loans might suggest that these institutions are not sufficiently incentivized to compete with one another for deposits and customers.¹⁸ As would be the case in any competitive market, this would drive down profits until margins were very thin. Another interpretation of high borrowing costs is the presence of information asymmetries, whereby banks are not sufficiently able to assess counterparty credit quality and thus must charge relatively high interest rates on loans to cover uncertainty regarding risks. Indeed, as will be shown in the next section, credit information sharing is relatively deficient in many of the Caribbean countries.

11.4.3. *Interest Rate Spreads and Return on Equity for Local Banks*

Regardless of the causal factors, bank interest rate spreads were very high in 2016 in several Caribbean countries, including Jamaica and Guyana, with

¹⁸ The interest rate spread is the interest rate charged by banks on loans to private sector customers minus the interest rate paid by commercial or similar banks for demand, time, or savings deposits.

Figure 11.11. Obstacles to Firm Productivity and Performance—Cost of Finance by Firm Size (percentage of respondents)



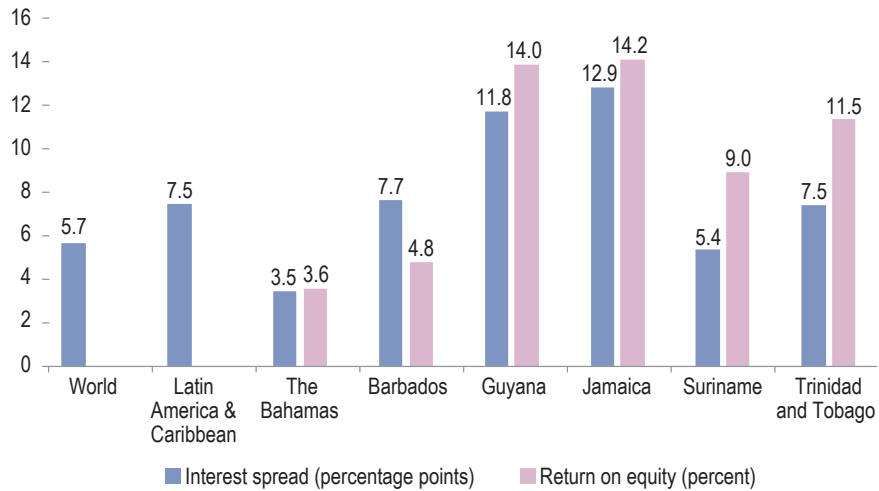
Source: Compete Caribbean, 2014 Productivity, Technology and Innovation in the Caribbean (PROTEqIN) Enterprise Survey.

Note: Organisation of Eastern Caribbean States (OECS) countries included in the composite index are Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines. The PROTEqIN survey does not have information for the rest of the OECS countries (i.e., the British overseas countries and territories of Anguilla, the British Virgin Islands, and Montserrat).

spreads of 12.9 and 11.8 percentage points, respectively (Figure 11.12). This is considerably higher than the average for all other countries for which data were available (5.7 percentage points) and the average for LAC (7.5 percentage points). Conversely, banks in The Bahamas and Barbados—both countries with relatively larger and more internationally exposed financial sectors—are characterized by more modest interest rate spreads of 3.5 and 7.7 percentage points, respectively (Figure 11.12). As discussed in more detail below, relatively wide spreads are linked to undersized banking systems (based on a synthetic benchmarking exercise) in some of the Caribbean countries.

Other indicators reinforcing the findings regarding the costs of credit in Caribbean countries are profit margins and returns on equity for commercial banks.¹⁹ One might expect returns on equity to be higher for countries

¹⁹ Defined as the average return on assets (net income/total equity).

Figure 11.12. Cost of Credit: Interest Rate Spreads and Return on Equity, 2016

Source: World Bank, World Development Indicators and Financial Development and Structure databases.

with insufficient competition within the banking sector compared to what would be observed in countries where competition (or other factors) incentivize institutions to drive down prices. By this measure, several Caribbean countries host highly profitable banking sectors, with average returns on equity in 2016 of about 14 percent for Jamaica and Guyana,²⁰ and of 11.5 percent and 9 percent for Trinidad and Tobago and Suriname, respectively (Figure 11.12). Interestingly, the two Caribbean countries whose banking sectors tend to be exposed to greater levels of external competition owing to their status as offshore financial services sectors host banks that are less profitable than global and regional averages—that is, The Bahamas and Barbados, with sector returns on equity of 3.6 and 4.8 percent, respectively.

11.4.4. Summary: Obstacles to Financial Access in Caribbean Countries

In summary, many firms in Caribbean countries highlight both access to finance and the costs of finance as significant obstacles to productivity and performance. In several cases, these challenges appear considerably more pronounced for smaller firms. These survey results are corroborated

²⁰ Note that 2016 was used to ensure cross-country data comparability. The Bank of Jamaica reported in its 2017 Financial Stability Report that the return on equity for deposit-taking institutions was 16.1 percent as of end-September 2017.

by nationwide indicators, such as very high proportions of loans requiring collateral, as well as relatively high interest rate spreads and strong bank profitability. Taken together, this evidence suggests that for many Caribbean countries, market deficiencies—ranging from a lack of sufficient competition to severe information asymmetries—have prevented lenders from providing financing in the quantity and/or at costs that are comparable to other regions, or that are sufficient to meet the needs of many local firms.

11.5. Creating an Enabling Environment for Financial Development

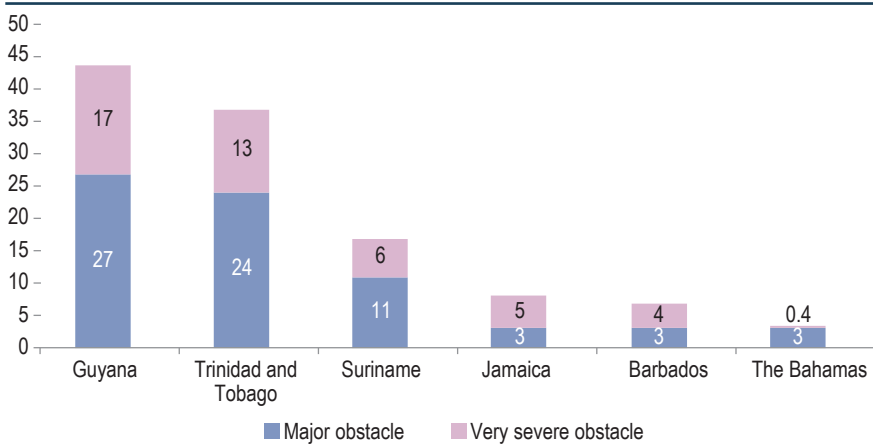
Unlike some other topics discussed in this volume, challenges or structural deficits with adverse implications for financial development can be difficult to map back to specific public policies or actions. For example, in the case of poor fiscal outcomes, reforms can often be undertaken largely by the government itself via reforms of revenue or expenditure policies, improvements in budgetary or financial processes, or legislative and institutional innovations (i.e., establishing fiscal rules or councils). The same can be said for a host of other development-related economic issues within the control of policymakers. By contrast, financial development involves a systemic and complex interaction between both private and public interests and incentives. Nonetheless, public policy can be tailored towards enabling a more favorable environment for financial development. As such, this section outlines some key (although not necessarily sufficient) policies to favor such an enabling environment.

11.5.1. *Importance of Macroeconomic Environment and Stability*

Macroeconomic stability is a necessary condition for financial development, although unto itself it is not a sufficient condition. Cross-country comparisons suggest that macroeconomic stability is critical for financial deepening (Boyd, Levine, and Smith 2001), while specific country experiences suggest that macroeconomic stability is a necessary condition for unlocking the financial deepening process. As an example of the importance of macroeconomic stability, mobilizing deposits and expanding credit in transition economies only took off when disinflation became entrenched (IMF 2012). The broader macroeconomic environment is also important, including fiscal policy and the exchange rate regime.²¹

²¹ See Chapter 5 in this volume for a detailed discussion on fiscal rules and councils and Chapter 9 for a discussion on alternative monetary and exchange rate regimes.

Figure 11.13. Constraints to Firm Productivity and Performance: Macroeconomic Environment (percent of firms for each country)



Source: Compete Caribbean, 2014 Productivity, Technology and Innovation in the Caribbean (PROTEqIN) Enterprise Survey.

In this context, more than a third of firms in Guyana and Trinidad and Tobago responding to the 2014 PROTEqIN Survey reported that instability and uncertainty with respect to the macroeconomic environment—for example, variables such as high levels or volatility with respect to inflation and/or interest rates, uncompetitive exchange rates, etc.—were major or very severe impediments to productivity growth and overall performance (Figure 11.13). In addition, both Barbados and Jamaica have faced severe debt and fiscal crises over the past decade as a consequence of weak economic policies, necessitating emergency adjustment programs involving financial assistance from international institutions, with adverse implications for financial sector performance, investment, and growth.²²

11.5.2. Institutional Frameworks

Other institutional factors can also support faster financial development. In this context, studies increasingly find issues related to contract enforcement and the efficiency of legal systems, as well as the availability of information regarding creditworthiness and financial histories of both

²² See Mooney (2018) for a discussion of how weak macroeconomic and fiscal policies in Jamaica crowded out private financing and held back development of the financial sector over an extended period.

firms and individuals, to be crucial pillars of sound and vibrant financial systems (Mooney 2015; World Bank 2014).²³

Contractual Frameworks and the Rule of Law

The financial system is one of the economic sectors most sensitive to legal institutional factors such as contract enforcement and property registration, particularly given the intertemporal and abstract nature of financial contracts. This includes the rights of secured and unsecured creditors, the quality of court systems, and the efficiency of contract enforcement. The World Bank's Doing Business indicators capture these dimensions in indices that are comparable across countries. Many Caribbean countries rank relatively poorly compared to other countries around the world, particularly with respect to contract enforcement, property registration, and the rights of minority investors (Figure 11.14).

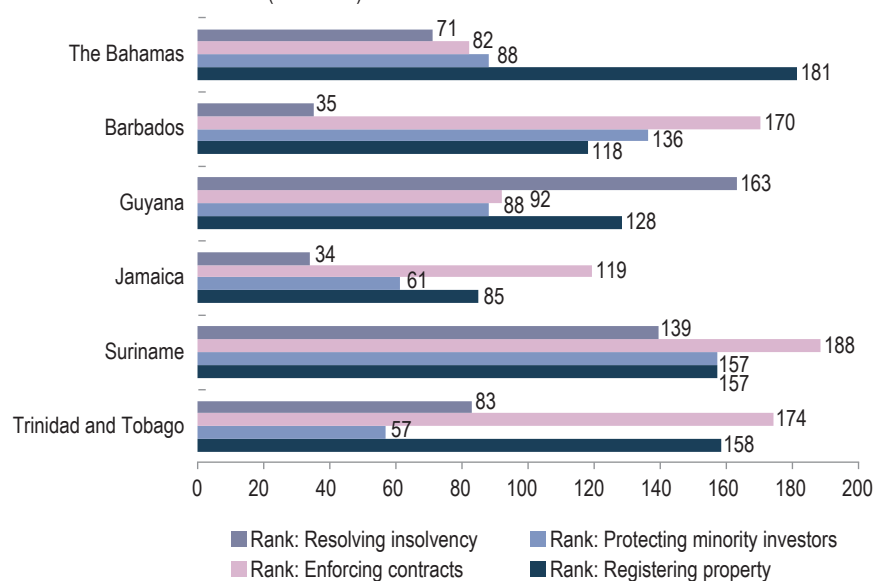
Resolving insolvency. In terms of creditor rights in collateral and bankruptcy law (critical for lenders to enforce their claims vis-à-vis borrowers through the court system), Jamaica scores very high (9 out of 12), despite maintaining some restrictions on secured creditors. The Bahamas, Barbados, and Trinidad and Tobago rank at the regional and Organisation for Economic Co-operation and Development (OECD) average with 6 or 7 out of 12 on the strength of legal rights index.²⁴ However, there is still a lack of integrated and unified legal frameworks for secured transactions, collateral registries, or legal priority for secured creditors in bankruptcy. Suriname and Guyana score very low with 2 and 3 out of 12, respectively. In this context, compared to the other countries, these jurisdictions lack mechanisms to allow collateral to become transferable or used without specific descriptions. There is also some variation with respect to the efficiency of the insolvency frameworks. In this context, the process takes between one year (Jamaica) and five years (Suriname). The costs range from 12 percent

²³ Notice that, as evidenced in the previous section, limited banking competition has resulted in credit rationing and higher interest rates. Therefore, increased competition in the banking sector is key for expanded financial inclusion. Enabling and refining the institutional frameworks outlined in this section will likely contribute to shape an attractive environment for increased banking actors and higher competition in this market.

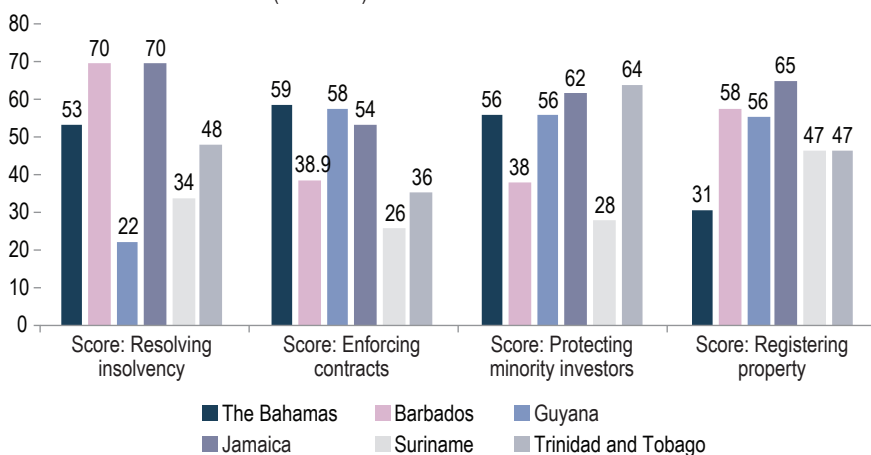
²⁴ The strength of legal rights index measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending. Special emphasis is given to how the collateral registry operates (i.e., if registration of security interests is possible).

Figure 11.14. World Bank Doing Business Indicators: Contractual Frameworks in Caribbean Countries

1. Rank on Selected Indicators (out of 190)



2. Score on Selected Indicators (out of 100)



Source: Latest data available for each country from the World Bank's 2020 Doing Business database (<https://www.doingbusiness.org/>).

Note: Rank out of 190 countries. The scale for scores is from 0 to 100, with higher numbers indicating institutions and policies closer to international best practices.

of the value to recover in The Bahamas to 30 percent in Suriname, and the recovery rates range from 68 percent in Barbados to only 7.6 percent in Suriname. Taken together, these data suggest that there is scope for

improvements across all Caribbean countries in terms of both legislation and efficiency related to the resolution of insolvency episodes.

Enforcing contracts. There is some variation in the efficiency of contract enforcement through the judicial system, as measured by the time and cost it takes to enforce a contract and the efficiency of the judicial process. The process takes from 345 days in The Bahamas to 1,715 days in Suriname. The cost ranges from 20 percent of the value to recover in Barbados to 50 percent in Jamaica. Furthermore, all countries show deficiencies in case management and court automation, though they all have alternative dispute resolution frameworks in place that can help companies manage despite other deficiencies in the judicial system.

Protecting minority investors. There is a large variation across the six Caribbean countries in terms of the protection of minority investors vis-à-vis management and majority shareholders (critical for domestic and foreign investors on stock exchanges), with scores ranging from 35 to 62 (on a scale from zero and 100). Suriname scores very low, with gaps in disclosure, director liability, board governance, ownership control, and corporate transparency. Trinidad and Tobago scores the highest, with the main gap being in corporate transparency. The other four countries score in between, with gaps in corporate transparency, board governance, ownership control, and corporate transparency.

Registering property. In terms of property registration—a critical precondition for using land and/or property as collateral—the six countries show some variation (between 43 and 57 on a scale from zero and 100). Some countries still have a paper-based registry spread over several agencies (The Bahamas and Guyana). Even where computer-based registration processes exist, these are often slow, and coverage is limited.

Systems of Credit Information Sharing

The availability of information regarding credit history, risks, and financial performance is another key characteristic of vibrant financial sectors. Related informational institutions and mechanisms include accounting and auditing standards, and systems for gathering and sharing credit information between banks and with supervisory agencies. In this context, theory and empirical studies have shown the importance of effective credit bureaus and registries in deepening financial systems, enhancing their stability, and increasing access to financial services, especially for

SMEs and households (Brown, Jappelli, and Pagano 2009; Luoto, McIntosh, and Wydick 2004).

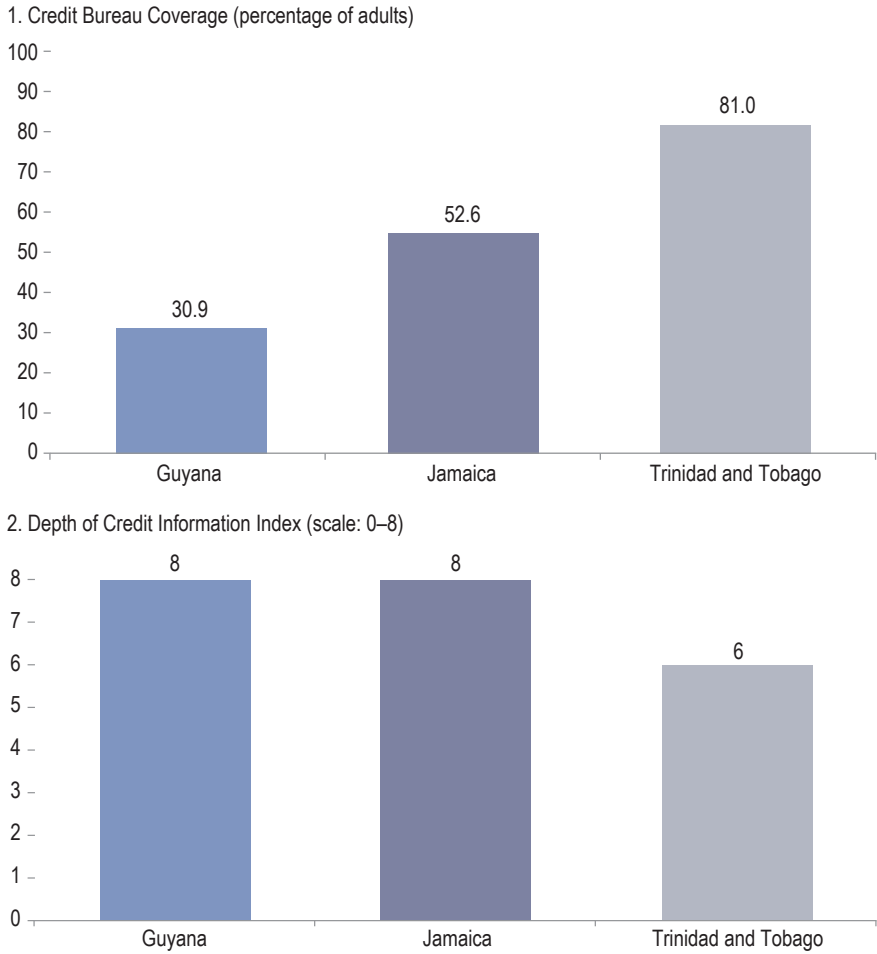
Institutions for credit information sharing. Figure 11.15 shows data from the World Bank's Doing Business indicators regarding the proportion of individuals and firms covered by credit information providers (i.e., data on borrowing histories of individuals and firms). Credit registries and credit bureaus are the two main types of credit reporting institutions that allow for loans taken out by individuals and/or enterprises to be recorded and the information to be accessed by authorized parties. The main difference between credit registries and credit bureaus is that the former are public entities, while the latter tend to be privately owned and operated. According to the latest available data, none of the six Caribbean countries have official credit registries and only three have credit bureaus—Guyana, Jamaica, and Trinidad and Tobago. These countries are home to privately run credit bureaus, although in Trinidad and Tobago the agency only covers individuals.²⁵ In this context, based on World Bank data, only 31 percent of the adult population is covered by credit bureaus in Guyana, while Jamaica and Trinidad and Tobago have somewhat higher levels. Therefore, establishing these institutions in The Bahamas, Barbados, and Suriname, while deepening their coverage in Guyana, Jamaica, and Trinidad and Tobago, is essential to enable a favorable environment for financial development.

Depth of credit information. The depth of credit information index measures the coverage, scope, and accessibility of credit information available through credit reporting service providers such as credit bureaus or credit registries. The index ranges from 0 to 8, with higher values indicating the availability of more credit information. On this measure, both Guyana and Jamaica score 8 out of 8, suggesting comparatively strong outcomes, while Trinidad and Tobago scores 6 out of 8 (Figure 11.15).

Taken together, these and related indicators suggest that Caribbean countries would benefit from stronger institutions and mechanisms for contract enforcement, management and resolution of financial disputes and transactions, and information sharing—particularly the three countries without credit registries or bureaus. As discussed later in this chapter, several of these deficits map back to observable hurdles to credit provision, particularly in the context of high collateral requirements.

²⁵ This is in line with the British and Dutch legal traditions and thus not surprising.

Figure 11.15. World Bank Doing Business Indicators: Credit Information Frameworks in Caribbean Countries, 2019



Source: World Bank, Doing Business database (<https://www.doingbusiness.org/>).

Note: The scale for depth of credit information index is from 0 to 8, with higher numbers indicating institutions and policies closer to international best practices. The Bahamas, Barbados, and Suriname have neither credit registries nor credit bureaus in place.

Structural Impediments

Beyond specific policy areas, there are certain structural characteristics that can foster or impede financial sector deepening, as outlined below.

Domestic savings. The savings of the household, private corporate, and public sectors in the economy—known as domestic savings—are an important

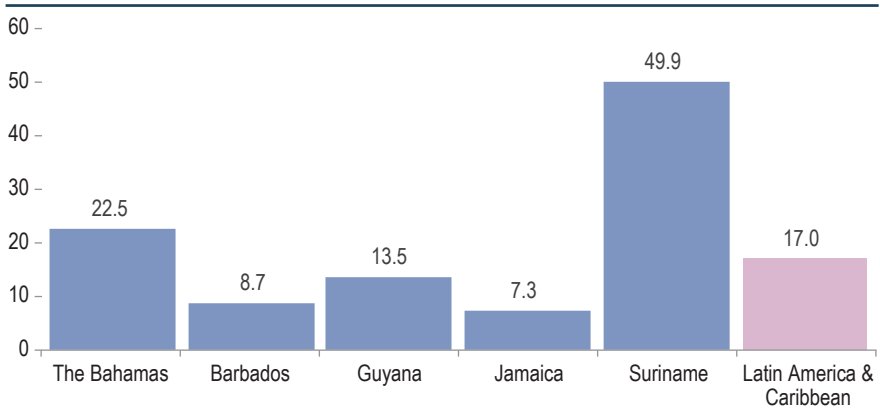
source of funding for banking systems and public capital markets. Albuquerque de Sousa et al. (2016) show that domestic savings are one of the few robust predictors of the success of nascent stock exchanges. While there are many factors explaining savings patterns across countries and over time (such as demographic structure), transforming the pension system into a capital-based system and broadening it beyond public sector employees can be one promising policy reform. Loayza, Schmidt-Hebbel, and Servén (2000) report on several studies, including Chile and Singapore, where pension reforms increased national savings rates, though such a positive relationship does not hold for all countries. Another important policy to increase national savings is fiscal policy, given that the Ricardian equivalence (offsetting changes in private and public savings) holds to a very limited extent if at all (see Loayza, Schmidt-Hebbel, and Servén [2000] and studies quoted therein).

There is a wide variation in gross domestic savings rates across five of the Caribbean countries analyzed here for which data are available. While The Bahamas and Guyana have savings rates in line with the regional average, Barbados and Jamaica have very low savings rates (Figure 11.16). Finally, Suriname has a surprisingly high savings rate—the second highest in the world after Singapore—which is related to high commodity and agricultural exports.²⁶

Natural resource abundance. Concerning country characteristics that can hold back financial deepening, there is increasing evidence of a “natural resource curse” in financial development. It is generally easier to generate short-term profits from natural resources, such as oil, than from fixed assets, such as manufacturing plants, equipment, and machinery. This is because proceeds from natural resources depend less on the creation of a market, human capital, and research & development investments. This in turn reduces incentives to invest in institutions (Besley and Persson 2010). Given that the financial sector is one of the most institution-sensitive sectors in the economy, less developed institutions in natural-resource-rich countries thus have a negative impact on financial sector development. Natural resource abundance can also undermine financial sector development if resource-related wealth is shifted out of the domestic financial system and into either foreign investment conduits and offshore sovereign wealth funds (Andersen et al. 2017), or into nonfinancial wealth, such as real estate. Lower savings rates in resource-abundant countries might

²⁶ Note that data for Suriname reflect the average from 2008–2010, the period for which the latest data were available.

Figure 11.16. Gross Domestic Savings versus GDP across Caribbean Countries (percent)



Source: World Bank, World Development Indicators.

Note: Data are averaged over 2015–2017, except for Suriname, for which data are averaged over 2008–2010. No data are available for Trinidad and Tobago.

further reduce the intermediation capacity of the financial system by limiting the available domestic funding base (Ploeg and Venables 2012). Ultimately, this can hurt the development of the non-resource economy, especially sectors and industries reliant on external finance.

Given the institutional sensitivity of the financial sector, it is not surprising that natural-resource-rich countries have less developed financial systems (Beck 2011; Beck and Poelhekke 2017). One of the reasons for this is windfall gains from natural resource rents not being channeled through the financial systems, but rather being appropriated by governments and/or ending up in offshore accounts. Among the six countries analyzed here, Trinidad and Tobago (petroleum and natural gas) is a major resource exporter. However, Suriname is also an exporter of gold and oil as well as agricultural products. Finally, Guyana will soon become one of the largest oil exporters globally. On the upside, the “natural resource curse” can be overcome with strong institutions such as well-designed sovereign wealth funds, as discussed in Chapter 6 of this volume.²⁷

Economies of scale and scope. Another important constraining factor is the size of economies, as there is evidence of scale economies in financial system development. Fixed transaction costs in financial service provision result

²⁷ See also Chapter 7 of this volume for an empirical application showing the quantitative relevance of well-designed sovereign wealth funds in resource-rich Caribbean countries.

in decreasing unit costs as the number or size of transactions increases. The resulting economies of scale at all levels explain why financial intermediation costs are typically higher in smaller financial systems and why smaller economies can typically only sustain small financial systems (even in relation to economic activity). These economies of scale also explain the limited capacity of small financial systems to broaden their financial services towards clients with a need for smaller transactions. The effect of fixed costs on financial service provision can be reinforced by network externalities, where the marginal benefit to an additional customer is determined by the number of customers already using the service. This is especially relevant for capital market development. In summary, fixed transaction costs can explain the high level of formal financial exclusion in many developing countries. Fixed costs can also explain the lack of capital market development in many small developing economies, including the six countries covered in this chapter.

The consequences of small financial systems are several. First, small banking systems can sustain only a few financial institutions, which might reduce competition. Second, small financial systems are less able to maintain a diversified financial system in terms of different types of financial institutions and markets, and they offer fewer opportunities for risk diversification. Third, even where capital markets are reasonably large, a small investor and listed firm base depresses trading and liquidity.

The situations of the six countries covered in this chapter reflect the challenges associated with small financial systems. First, as discussed above, the financial systems of all six countries are dominated by commercial banks, with public capital markets playing a rather small role. Second, all six banking systems have few banks, ranging from 5 to 10 in number, though there is variation in ownership structures across all of the countries. The banking sectors of Suriname and Trinidad and Tobago are the only two of the six where government-owned banks play a prominent role. Specifically, as of 2013, one of the largest three banks as well as another three smaller banks in Suriname were in government ownership, while 30 percent of the banking system in Trinidad and Tobago was majority government-owned. The other four banking markets were dominated by foreign banks. Specifically, Barbados' five banks were all partly or fully foreign-owned and Jamaica's banking system was more than 80 percent foreign-owned. In The Bahamas, 75 percent of the banking market was foreign-owned, and half of Guyana's banks were foreign-owned. In Trinidad and Tobago, in contrast, only 20 percent of the banking system was foreign-owned, while in Suriname, less than 20 percent of the banking system was foreign-owned. Given the small size of the host economies, the six banking systems had concentrated loan portfolios, correlated across

institutions within each banking system. Some of the banking systems also had a higher share of mortgage loans, such as in Jamaica (72 percent), Barbados (47 percent), and The Bahamas (41 percent).

11.6. Financial Architecture: Benchmarking Finance in the Caribbean Countries

As illustrated in previous sections, the Caribbean countries display considerable differences in terms of financial depth, access, and adequacy of finance for firms. This should not be surprising given the many policy-related, macroeconomic, structural, geographic, size-based, and other differences across these economies. In this context, it is difficult to determine how differences across countries should map to differences in financial sector development and the potential of these countries to improve related outcomes.

In an attempt to clarify this issue, this section will lay out a method to benchmark financial development against a global sample. This will allow for comparing the Caribbean countries to each other and to countries around the world on the basis of their individual socioeconomic and structural characteristics. Traditionally, economists and analysts have worked with country comparisons, either focusing on neighboring countries or similar countries across the globe. A more systematic approach focuses on specific factors that drive financial sector development beyond the policy variables discussed above, and develops a synthetic benchmark. The following sections will first discuss the concept of a financial depth frontier (based on previous discussions in Barajas et al. [2013] and Beck and Feyen [2013]) before presenting the results of the benchmarking exercise for the Caribbean.

11.6.1. *Financial Depth Frontier*

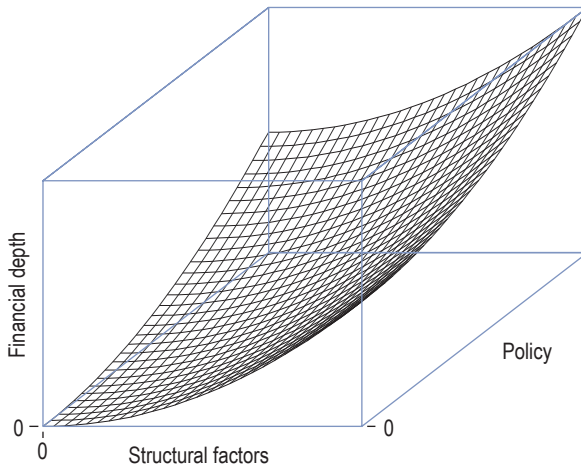
The idea of the frontier is that of a constrained maximum—that is, the maximum feasible and sustainable amount of financial intermediation in an economy given the structure of the economy and the macroeconomic and institutional environment. This concept is based on the observation that uncertainty and market frictions create the need for financial intermediaries and markets. While financial institutions and markets help overcome these market frictions, their efficient operation is restricted by these same frictions. The typical market frictions that interact to affect the process of financial deepening are associated either with information, enforcement, or transactions costs (Levine 2005; de la Torre, Feyen, and Ize 2013).²⁸

²⁸ See a similar discussion in Beck and de la Torre (2007).

In addition to costs, the depth and outreach of financial systems, especially in credit and insurance services, is constrained by risks, particularly default risk. These risks can be either contract-specific or systemic in nature. While idiosyncratic risks are specific to individual borrowers, projects, or policyholders, their management is influenced by the systemic risk environment. High macroeconomic uncertainty and deficient contract enforcement institutions exacerbate agency problems, while the lack of diversification possibilities can hinder the ability of financial institutions to diversify non-agency risks. As systemic risk increases, it enlarges the set of borrowers and projects that are effectively priced out of capital markets. Similarly, it makes insurance policies unaffordable for larger segments of the population. At the same time, the easing of agency frictions in the absence of adequate oversight can create incentives for excessive risk-taking by market participants (by failing to internalize externalities), fueling financial instability.

The efficiency with which financial institutions and markets can overcome market frictions is critically influenced by a number of state variables—factors that are invariant in the short term (often lying outside the purview of policymakers)—that affect the provision of financial services on the supply side and can constrain participation on the demand side. In broad terms, one can distinguish between two types of state variables: (1) structural characteristics of the socioeconomic environment in which financial institutions and markets operate and which impose a limit on their development and (2) long-term policy variables that either foster or limit financial deepening. While structural variables relate to the broader socio-political and structural environment in which the financial system operates (including market size, population distribution, and demographic structure), policy variables such as macroeconomic fundamentals, the available technology, and contractual and information frameworks are directly related to the financial sector and underpin it, as discussed above.

Using the concept of state variables allows for defining the financial depth frontier as a rationed equilibrium of realized supply and demand, variously affected by market frictions. Figure 11.17 illustrates the frontier and the difference between structural and policy variables among the state variables. The vertical axis denotes financial depth in general or the development of specific segments of the financial system. The horizontal axis is a one-dimensional representation of structural variables, as discussed above. For ease of illustration, it is assumed that the structural state variables are linearly related to sustainable financial depth. The structural depth line therefore represents the expected level of financial depth

Figure 11.17. Financial Possibilities Frontier

Source: Beck and Feyen (2013).

given a country's structural characteristics. The third axis denotes policies and institutions conducive to financial deepening, again a one-dimensional representation.

The plane is the combination of structural characteristics and policies/institutions consistent with a given level of financial depth in an economy. Points above the plane are unsustainable levels of financial depth, while points below are inefficient, as they do not exploit the opportunities provided by structural characteristics and policies/institutions in an economy. The separation of structural characteristics and policies underlines an important point, which is that the same set of policies will not lead to the same results in terms of long-term provision of finance across countries with different characteristics. In addition, policies as well as expectations have to be tailored to the structure of an economy.

The concept of the financial depth frontier is the backdrop for the benchmarking exercise, which tries to explain the variation across countries with structural (and thus exogenous) characteristics. Specifically, following Beck and Feyen (2013) and using a large panel of countries over time, the exercises regresses each indicator of financial development on the following explanatory variables:

- *GDP per capita:* Economic development affects financial development due both to demand effects (the volume and sophistication of financial activity increase with income) and supply effects

(larger, richer economies can achieve economies of scale and benefit from more competition and better infrastructure).

- *Total population:* Countries with larger populations can have deeper and more efficient financial systems by better exploiting scale. For example, Borensztein, Eichengreen, and Panizza (2006) show that the lack of capital market development in many developing and emerging markets can be explained by the lack of critical mass.
- *Old and young dependency ratios:* Age dependency ratios—that is, the non-working young and old populations, respectively, as fractions of the labor force—are likely to affect savings and lending patterns and thus the development and structure of the financial system.
- *Transition, offshore, oil exporter, and landlocked country dummies:* Oil exporters have smaller financial sectors than other countries at similar levels of income, reflecting the fact that oil revenues can boost GDP out of proportion with the country's overall level of economic and financial development and provoke the potential “natural resource curse” (Beck 2011; Beck and Poelhekke 2017). Offshore financial centers with intensive cross-border operations can have disproportionately large financial sectors that do not necessarily cater to the local economy. Landlocked countries encounter structural challenges in accessing international markets, which will impact the composition and performance of the real economy and, as a result, financial development. Finally, transition economies have experienced a different financial development path than other countries (World Bank 2017).
- *Year dummies:* Since all available country-year observations are pooled, temporal patterns that “lift or sink all boats” are accounted for. For example, the 2000s saw an increase in financial depth indicators across all country income groups (Beck, Levine, and Levkov 2010), while the 2008 global financial crisis had a dampening effect on financial depth indicators across many countries, especially indicators related to cross-border flows.

To reduce distortions coming from outlier observations, models using quantile regressions as opposed to ordinary least squares are estimated. Based on the benchmark regressions, the gap can be defined as the difference between the predicted and actual values. If the actual level of financial development is below the predicted level (thus an adverse gap),

several additional empirical analyses can give insights into the reasons why. First, what are the macroeconomic and institutional conditions for financial deepening in the country? Second, are there demand-side constraints related to a previous boom-bust cycle and the consequent burden of over-indebtedness for both enterprises and households (which requires an analysis over time)? Third, are there barriers related to market entry or regulatory constraints that prevent the financial system from deepening? Analysis of the market structure and degree of competition in the financial system might be useful in that context.

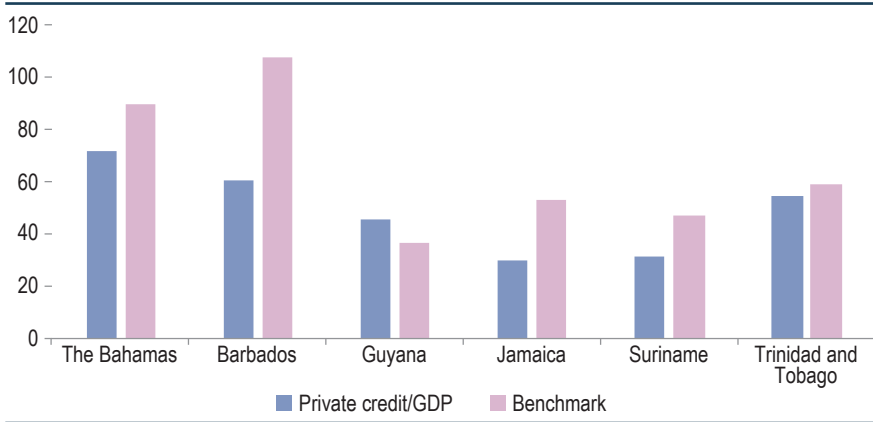
If the actual level of financial development is above the predicted level, this might also be due to several reasons that can be gauged using different data sources. First, a sound and flexible institutional framework might allow the financial system to move beyond its structural depth line. If this movement beyond the predicted level has been a gradual one and in line with improvements in policy and institutional indicators, it might indeed be sustainable. If on the other hand there is a rapid increase in funding to specific sectors, such as household or mortgage credit or in foreign currency rather than local currency, this might indicate an unsustainable expansion. Finally, bailout expectations, as gauged from banks' credit ratings and funding cost differences between systemically important banks and non-systemic institutions, might provide additional indications of overheating.

The following section shows and discusses the actual and predicted value of different indicators of financial development for Caribbean countries (subject to data availability).

11.6.2. *Benchmarking Key Sectors*

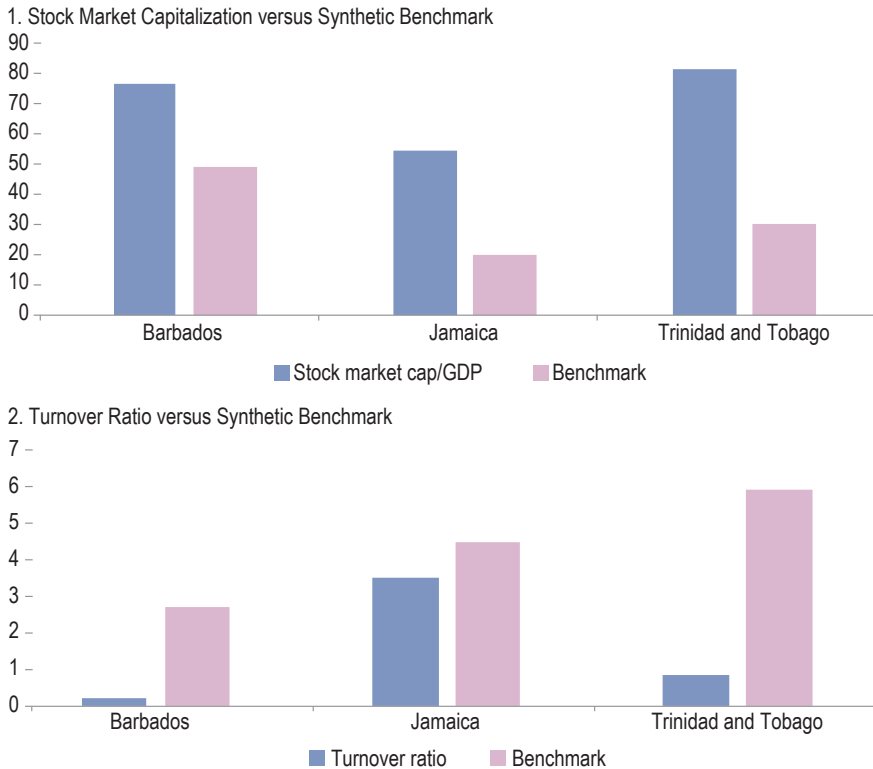
Figure 11.18 shows that, with the exception of Guyana, all countries have private-credit-to-GDP ratios below the predicted level, although the level is very close in Trinidad and Tobago. While this might be surprising for countries like The Bahamas and Barbados that have relatively high private credit ratios, it is important to keep in mind that the benchmark is a synthetic one and thus compares every country to a hypothetical country with the same characteristics, including the income level. The fact that the gap is relatively small for Trinidad and Tobago might be because the predicted value is also relatively small due to its natural resource reliance. Indeed, Caribbean commodity exporters (Guyana, Suriname, and Trinidad and Tobago) show significantly smaller frontiers than Caribbean economies that are more focused on services and tourism (The Bahamas and Barbados).

Figure 11.18. Benchmarking Private Credit to GDP across Caribbean Countries, 2017 (percent)



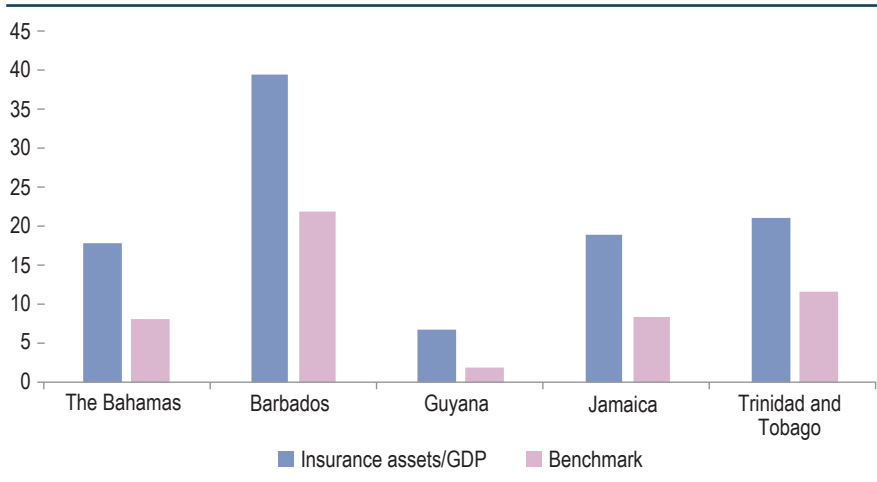
Sources: World Bank, Global Financial Development Data; and authors' calculations.

Figure 11.19. Benchmarking Stock Market Development across Caribbean Countries, 2017 (percent)



Sources: World Bank, Global Financial Development Data; and authors' calculations.

Figure 11.20. Benchmarking Insurance Market Development across Caribbean Countries, 2017 (percent)



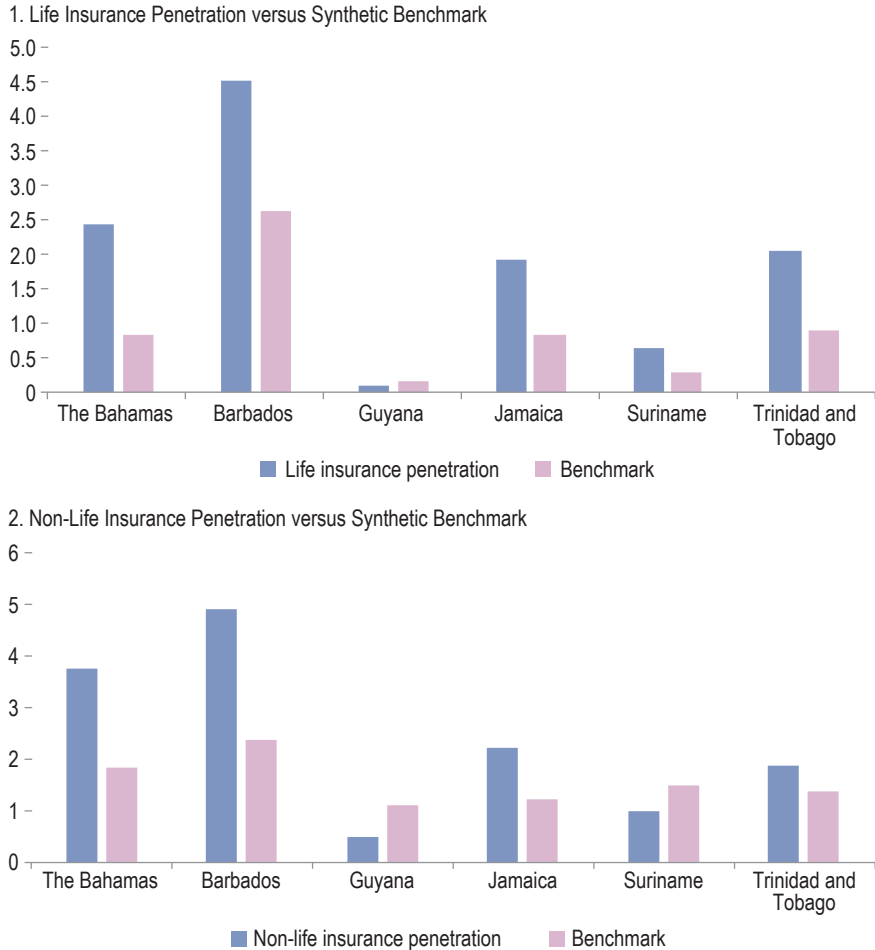
Sources: World Bank, Global Financial Development Data; and authors' calculations.

Note: No data were available for Suriname.

Figure 11.19 shows actual and predicted values for stock market capitalization/GDP and the turnover ratio for the three countries for which data are available. It is striking to see that the size of stock exchanges in all three cases is larger than the predicted value, while the liquidity level is smaller, substantially so in the cases of Barbados and Trinidad and Tobago. This suggests that the actual negative effect of the diseconomies of scale in public capital markets is even stronger than what is accounted for in the benchmarking model.

Finally, Figure 11.20 shows that the size of the insurance sector is substantially larger than predicted by the benchmarking model. Unlike Latin American countries, the countries covered in this chapter have large insurance sectors. This is driven more by life insurance than non-life insurance, as can be seen in Figure 11.21, which benchmarks life- and non-life insurance penetration (premium volume relative to GDP) in the different countries. The gap between actual and predicted penetration is, on average, larger for life insurance than for non-life insurance.

In summary, benchmarked on their socioeconomic characteristics, the Caribbean countries have small banking systems but comparatively large insurance sectors, especially life insurance sectors. Their stock markets are larger, but with lower-than-expected liquidity. The relatively low level of bank intermediation might be related to the deficient contractual and information frameworks discussed above.

Figure 11.21. Benchmarking Insurance Penetration across Caribbean Countries, 2017 (percent)

Sources: World Bank, Global Financial Development Data; and authors' calculations.

11.7. Conclusions and Areas for Further Consideration

Emerging research and cross-country evidence presented in this chapter underscore the importance of financial development for economic growth and social outcomes. This chapter attempted to add to the understanding of these issues, particularly in the context of Caribbean countries. The chapter developed new measures of financial access and adequacy, as well as original methods designed to assess countries' levels of financial development relative to their country-specific potential. In both contexts, the

findings suggest that, in general, the six Caribbean countries analyzed—The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago—have been held back by both inherent deficits (e.g., economies of scale and scope) as well as policy and structural deficits that should be the focus of reform.

In particular, the research documents a variety of outcomes in terms of financial depth, access, and adequacy. Regarding the depth of credit markets (i.e., private credit relative to GDP), which constitute the base of the financial pyramid, most Caribbean countries compare poorly with both regional peers and other countries at similar levels of income and development (e.g., other middle- and high-income countries). Jamaica, Suriname, and Trinidad and Tobago in particular have seen little progress in terms of financial deepening since the 1980s, likely owing to policy inconsistencies (e.g., unsustainable fiscal or debt situations, high inflation and interest rates, and/or uncompetitive exchange rates), and the impacts of large external shocks. In this context, surveys of firms report concerns over the macroeconomic environment as among their most significant challenges to productivity and performance.

The analysis also finds that while the use of savings accounts appears widespread, firm access to basic lending services is constrained in several of the Caribbean countries. Firms in Barbados, Trinidad and Tobago, and Guyana report greater access to loans and credit lines than global and regional averages, while Jamaica, The Bahamas, and Suriname fall short.

Turning from access to the concept of sufficiency, the chapter developed a new measure of financial adequacy—“firm financing gaps”—that highlights severe impediments to firm access to finance in Jamaica and Suriname and strong performance in some other countries. In fact, firms in Barbados appear to have the second best performance on this measure out of 141 emerging market economies for which data were available.

The research for this chapter also focused on some reasons why firms may face challenges in accessing finance. For example, cross-country surveys suggest that high interest rates, the need for security enhancements (e.g., collateral or guarantees), and the complexity of loan applications are among the most common reasons why firms do not apply for loans. In this context, enterprise surveys suggest that impediments to finance such as collateral requirements and the high costs of borrowing are among the most commonly reported challenges to firm productivity and performance in Caribbean countries. These impediments tend to be more acute for small firms. Other enterprise survey results confirm these conclusions, highlighting the fact that, except for Barbados, firms in all Caribbean countries report collateral requirements that are higher than both cross-country

and regional averages. Similarly, in considering indicators linked to the costs of credit, including interest rate spreads and bank profitability in these jurisdictions, the analysis found that Jamaica, Guyana, and Trinidad and Tobago appear to host banking sectors that reap extra-normal profits and charge proportionally high interest rates on loans. These and related indicators tend to suggest the presence of structural deficits preventing local banks in several Caribbean countries from providing funding at more reasonable cost.

The analysis also considered financial depth and development across various segments of the financial market, including the credit sector (e.g., banking), equity markets, and insurance sectors (both life and non-life insurance providers). To this end, an original benchmarking exercise for each of the Caribbean countries compared financial sectors and relevant subsectors against predicted values, with findings that have considerable potential implications for policies and reform efforts. First, apart from Guyana, Caribbean countries have credit sectors below the predicted level (as measured by private credit as a proportion of GDP). This is consistent with the findings regarding less-than-adequate funding for firms in several of these countries. Second, stock market capitalization (as a proportion of GDP) in the three countries for which comparable data were available (Barbados, Jamaica, and Trinidad and Tobago) is larger than the predicted values, while liquidity (i.e., turnover) is less ample than predicted—substantially so in the cases of Barbados and Trinidad and Tobago. This result suggests that the real negative effect of the diseconomies of scale in public capital markets is even stronger than suggested by the benchmarking model. Finally, the size of the insurance sector (primarily life insurance) is substantially larger than predicted by the benchmarking model.

In summary, when Caribbean countries are benchmarked with respect to their structural characteristics against other countries across the world, they are found to have small banking systems but large insurance sectors, especially for life insurance. Their stock markets are larger than one would expect but have lower-than-expected liquidity. Findings of this benchmarking exercise support the above-mentioned conclusions of the newly developed measures of financial adequacy that firms in several Caribbean countries are considerably underserved in the credit markets. This represents a considerable impediment to their performance and productivity growth, hampering prospects of achieving faster and more inclusive aggregate growth. This is particularly so for smaller firms, which are responsible for a large share of employment in many of these countries.

In terms of policies and reform priorities, several potential implications flow from this work, including the following:

- *Macroeconomic stability and policy prudence:* The first priority of any government wishing to create an enabling environment must be to ensure low and stable inflation as well as fiscal prudence to avoid crowding out private credit. Policy predictability will also provide added confidence to those that would both lend and borrow, as well as invest in local capital markets.
- *Availability of credit information:* High collateral requirements and costs of borrowing have been reported as significant impediments to financial deepening and access. Measures such as the development of centralized credit registries and bureaus, as well as other mechanisms for the gathering and sharing of information on risk, would support improved counterparty credit risk assessment and management. This would allow banks to reduce their need for credit enhancements (e.g., collateral and guarantees), extend maturities, and broaden the base of potential borrowers at lower costs.
- *Property rights and insolvency procedures:* Ensuring that country institutional frameworks for regulatory and judicial systems provide both creditors and debtors with greater confidence in terms of property rights, contract enforcement, and the process of resolving insolvency would help accelerate financial development and improve access to credit. These are also areas where several Caribbean countries fall short of international benchmarks.
- *Credit sector competition:* Regulatory and other reforms aimed at stimulating healthy competition in the banking sector are important to ensure that credit can be provided at reasonable costs—one of the key hurdles identified by many firms in the region. If implemented without compromising financial stability or prudential standards, adequate levels of regulation aimed at fostering competition could encourage broader use of credit by individuals and SMEs, with benefits for all sectors of the economy.²⁹
- *Promotion of financial technology with adequate safeguards:* As discussed in Annex 11.3, financial technology (or fintech, for short) is a rapidly evolving field that offers considerable promise in terms of promoting financial development and inclusion. New technologies and consumer practices are facilitating the provision of financial services by traditional market players (e.g., banks), as well as the entry of new models and financing modalities, with the

²⁹ See Chapter 10 in this volume for a detailed discussion on financial regulation and supervision.

potential to both deepen markets and broaden access. Fintech can also help overcome key barriers to financial deepening and access, including as those barriers relate to physical access to banking services, documentation requirements, and lowering costs of finance. In this context, Caribbean governments should prioritize the facilitation of digital financial services, in partnership with the financial industry, while ensuring that regulatory and supervisory capacity is sufficient to mitigate any risks to compliance or consumer protection.

While country-specific issues such as informality, crime and disorder, and others are also clearly relevant, focusing on progress on the five critical themes cited above could help countries move towards their financial possibility frontiers and achieve their full potential in terms of financial sector depth and development. This would, in turn, support broader and more adequate access to finance for both small and large firms, households, and marginalized populations, and help Caribbean countries improve the lives of their citizens in a more inclusive and sustainable way.

Annex 11.1. Country Groupings

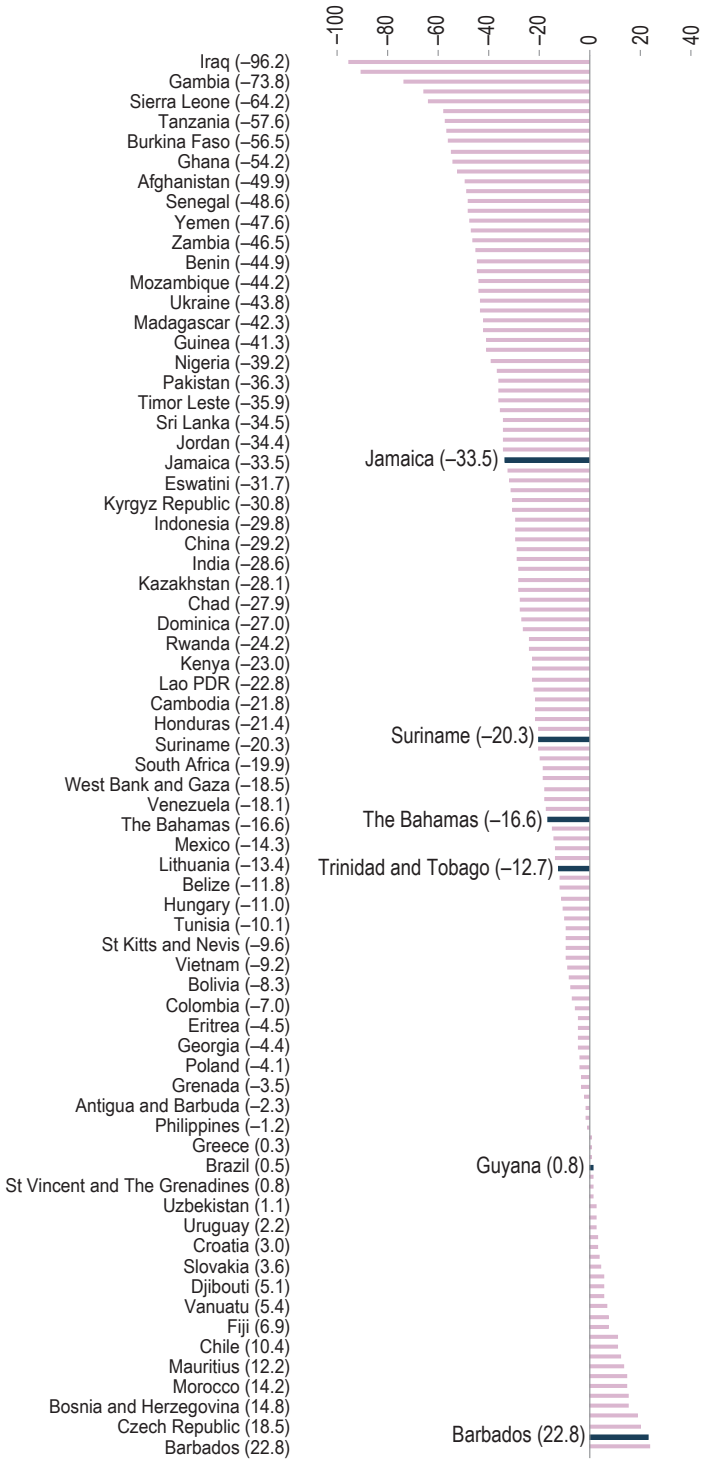
Caribbean	Latin America
(6 countries)	(16 countries)
The Bahamas	Argentina
Barbados	Belize
Guyana	Bolivia
Jamaica	Brazil
Suriname	Chile
Trinidad and Tobago	Colombia
	Ecuador
	El Salvador
	Guatemala
	Honduras
	Mexico
	Nicaragua
	Panama
	Paraguay
	Peru
	Uruguay

Countries Included in the World Bank Enterprise Survey Database			
(143 countries)			
Afghanistan	Djibouti	Lebanon	Senegal
Albania	Dominica	Lesotho	Serbia
Angola	Dominican Republic	Liberia	Sierra Leone
Antigua and Barbuda	Ecuador	Lithuania	Slovak Republic
Argentina	Egypt, Arab Rep.	Madagascar	Slovenia
Armenia	El Salvador	Malawi	Solomon Islands
Azerbaijan	Eritrea	Malaysia	South Africa
The Bahamas	Estonia	Mali	South Sudan
Bangladesh	Eswatini	Malta	Sri Lanka
Barbados	Ethiopia	Mauritania	St. Kitts and Nevis
Belarus	Fiji	Mauritius	St. Lucia
Belize	Gabon	Mexico	St. Vincent and the Grenadines
Benin	Gambia, The	Micronesia, Fed. Sts.	Sudan
Bhutan	Georgia	Moldova	Suriname

(continued on next page)

Countries Included in the World Bank Enterprise Survey Database <i>(continued)</i>			
(143 countries)			
Bolivia	Ghana	Mongolia	Sweden
Bosnia and Herzegovina	Greece	Montenegro	Tajikistan
Botswana	Grenada	Morocco	Tanzania, Republic of
Brazil	Guatemala	Mozambique	Thailand
Bulgaria	Guinea	Myanmar	Timor-Leste
Burkina Faso	Guinea-Bissau	Namibia	Togo
Burundi	Guyana	Nepal	Tonga
Cabo Verde	Honduras	Nicaragua	Trinidad and Tobago
Cambodia	Hungary	Niger	Tunisia
Cameroon	India	Nigeria	Turkey
Central African Republic	Indonesia	North Macedonia	Uganda
Chad	Iraq	Pakistan	Ukraine
Chile	Israel	Panama	Uruguay
China	Italy	Papua New Guinea	Uzbekistan
Colombia	Jamaica	Paraguay	Vanuatu
Congo, Dem. Rep.	Jordan	Peru	Venezuela, RB
Congo, Rep.	Kazakhstan	Philippines	Vietnam
Costa Rica	Kenya	Poland	West Bank and Gaza
Côte d'Ivoire	Latvia	Samoa	
Croatia	Kosovo	Romania	Yemen, Rep.
Cyprus	Kyrgyz Republic	Russian Federation	Zambia
Czech Republic	Lao PDR	Rwanda	Zimbabwe

Annex 11.2. Firm Financing Gaps across the World (percentage points)



Source: Authors' calculations based on the latest available World Bank Enterprise Survey (WBES) data.
Note: The firm financing gap equals the difference between firms reporting a financing need and firms reporting having secured a loan or line of credit. Positive results (i.e., Barbados and Guyana) indicate that more firms had outstanding loans or lines of credit than reported a need for financing (and vice versa). Sample includes all emerging and developing economies included in the WBES database. Not all country labels fit in this figure. Caribbean countries are highlighted. Slovenia (23.7 percent) was the only country whose firm financing gap was greater than that of Barbados.

Annex 11.3. Financial Technology (Fintech): Catalyst for Financial Development and Inclusion

Financial technology (or fintech, for short) is a rapidly evolving field that offers considerable promise in terms of promoting financial development and inclusion. New technologies and consumer practices are facilitating the provision of financial services by traditional market players (e.g., banks), as well as the entry of new models and financing modalities with the potential to both deepen markets and broaden access. While this process also involves risks to consumers and markets, it has proven beneficial across many nations and countries at various levels of development, including as it relates to financial access and inclusion.

Fintech has many potential applications and can take many forms. But taken together, these technologies and practices can help to overcome several key impediments to financial development, access, and inclusion. These impediments include (1) limited physical access to financial institutions, particularly in the least developed countries; (2) cumbersome documentation requirements that have prevented individuals from opening accounts, transacting, and maintaining financial records; (3) high costs of financial transactions that have dissuaded many firms and individuals from participating in financial activities; and (4) limited sources of funding for traditional activities (e.g., credit), which fintech can help alleviate by providing more advanced modalities of finance to support emerging enterprises and innovation (e.g., addressing issues such as crowdfunding, fractional ownership mechanisms, microfinance and microinsurance, etc.).

Though the landscape is evolving quickly, some fintech services that have been prevalent for well over a decade provide encouraging examples. Mobile money and banking, for example, have proven quite positive for many emerging and developing countries. In fact, the greatest gains in terms of financial inclusion and access from these and related fintech applications have been reaped by those countries at the lowest levels of income and development—including several countries in developing Asia and sub-Saharan Africa. In this context, research suggests that fintech holds promise to reduce costs and frictions,³⁰ increase efficiency and competition, narrow information asymmetries, and broaden access to financial services, especially in low-income countries and for underserved populations in Africa (IMF and World Bank 2019). Conversely, however, this rapid

³⁰ Frictions that can be overcome by fintech applications include geographical barriers to access, the absence of collateral, high opportunity costs of holding cash, and market failures.

evolution of technology and its application also holds risks in terms of the ability of regulators to oversee transactions and flows to prevent illicit activity, ensure tax compliance, and protect consumers.

To ensure that fintech adequately supports broader economic development and inclusive growth while also facilitating international payments (e.g., remittances), the International Monetary Fund reports that authorities around the globe are exploring new and innovative regulatory approaches. These approaches include sandboxes,³¹ incubators, accelerators, and innovation hubs that allow for experimentation, innovation, and information exchange while also helping to manage related risks.

³¹ A regulatory sandbox is a framework set up by a regulator that allows fintech start-ups to conduct live experiments in a controlled environment under a regulator's supervision.

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A Policy Agenda for the Caribbean

Diether W. Beuermann and Moisés J. Schwartz

This book has provided an in-depth examination of Caribbean economic institutions that can jointly establish the conditions for more resilient economies and better prospects for growth and development. The study is a natural follow-up to *Nurturing Institutions for a Resilient Caribbean* (Beuermann and Schwartz 2018), which analyzed a broader set of institutions in the same Caribbean countries analyzed here.¹

The analyses in this book have focused on three broad areas that constitute the foundation of economic institutions: fiscal institutions, monetary policy, and financial systems. The book delves deeply into these wide-ranging areas and goes beyond diagnostics by including tailored recommendations for policy reforms in each Caribbean country analyzed based on applicable international best practices. In doing this, the volume not only fills a gap in our understanding of the state of economic institutions in the Caribbean, but also puts forward an evidence-based agenda for prospective reforms with the potential to build resilience and foster sustainable development and prosperity. This concluding chapter provides an overall snapshot of this agenda. The interested reader can dive into the specifics of the agenda provided in each chapter.

On fiscal institutions, the volume started by analyzing public revenue administrations. There is little disagreement that necessary public investments and crucial government expenditures are not feasible without effective collection of public revenue. As such, trustworthy and robust revenue institutions with a smoothly functioning collection capacity are critical to the sustainability of any state and its society. Chapter 2 documented larger volatility in tax revenue collection among Caribbean

¹ The six countries analyzed constitute the Inter-American Development Bank's Caribbean Country Department: The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago.

countries compared to similar small economies across the world. Therefore, appropriate refinements to tax revenue collection institutions to support smoother levies of public revenues would be beneficial. The chapter advocated for simplifying taxes, implementing data analytics techniques, and embracing the digital revolution by moving towards paperless collection processes through the establishment of e-filing and e-payment facilities.

Next, the book tackled the other side of the equation: expenditures. Public expenditures are financed either with public revenues or with debt. Therefore, establishing institutions that provide incentives for long-term sustainability and that contain overspending are crucial to preclude over-indebtedness and to improve fiscal performance. As shown by the international evidence applicable to the heterogeneous circumstances of Caribbean countries, an effective institutional structure towards this end is a synergic system rather than stand-alone entities. Chapters 3 through 8 showed that such a system should encompass sound public financial management tools, forward-looking and transparent budgeting processes, medium-term fiscal frameworks, modern managerial structures of public debt, fiscal rules with appropriate escape clauses, strong independent fiscal councils, well-designed sovereign wealth funds, and sustainable pension systems.

As shown throughout these chapters, this institutional structure has the potential to provide a sustainable anchor to enhance the credibility and limit the observed procyclical nature of fiscal policies, thereby supporting inter-generational equity. The lack of such institutions makes fiscal mismanagement more likely. Consequently, their establishment would likely help improve the transparency and credibility of fiscal policy, as well as increase awareness of the political and social costs of unsound policies. In this regard, it is worth highlighting that some Caribbean countries, such as Barbados and Jamaica, have made noticeable progress. Decisive action, therefore, is central to address fiscal imbalances and high debt levels and to thus provide more certainty in economic policymaking.

Having addressed fiscal institutions, the book then proceeded to examine institutions related to monetary policy. Chapter 9 showed that the independence and transparency of central banks influence their credibility and effectiveness in controlling inflation and providing a proper environment for economic growth and prosperity. Overall, however, Caribbean countries were shown to have relatively low levels of central bank independence and transparency. Nonetheless, it was also documented that ongoing reforms, as in the case of Barbados and Jamaica, are headed in the right direction and have significantly increased central bank independence. Therefore, ensuring technical and political independence of central

banks, as well as introducing greater transparency in their operations, should rank high on the agendas of policymakers in the region.

Finally, Chapters 10 and 11 focused on financial systems. In terms of financial regulation, Chapter 10 showed that the procyclical nature of credit across the Caribbean has made the region highly vulnerable to external shocks. Therefore, financial regulatory reforms aimed at introducing macroprudential standards that facilitate the feasibility of a countercyclical nature of credit are highly relevant for Caribbean nations. Chapter 11 proceeded with a novel analysis of unsatisfied credit demand across Caribbean firms. This evidenced relatively small banking systems across the region, which suggests the need for reforms aimed at fostering credit competition and facilitating financial inclusion. These reforms should include the establishment of credit registries and bureaus to facilitate more effective sharing of credit performance records, strengthened property rights and insolvency procedures, and improved financial technologies with adequate safeguards.

Each of the broad categories into which economic institutions have been grouped in this volume—fiscal institutions, monetary policy, and financial systems—entails a complex set of institutions and policies that need to complement one another within their own sphere and among the rest of the economic institutions. That is, for fiscal policy to be more sustainable, monetary policy to be more effective, and financial systems to be more resilient and competitive, each set of economic institutions needs to work in tandem among themselves and with the other economic institutions.

While one could still go deeper in the analysis and incorporate perhaps other relevant economic institutions such as those for labor, competition, trade, and investment, this volume has covered a huge amount of ground and put forward a comprehensive agenda for reform. In sum, the reforms needed in Caribbean countries should not be underestimated or postponed. To place the region on a more sustainable path toward strengthened resilience to unexpected shocks such as the current COVID-19 pandemic, many of the institutional aspects discussed in this volume require attention. Some of these elements are more urgent than others, and some of the countries have already made significant progress in implementing them. Policymakers and the various stakeholders in each country face the task of identifying the best way to move forward and determining which of the many institutions need to be strengthened. This could be challenging for small countries with already stretched capacity and that are highly affected by the pandemic. However, the institutional reform agendas presented throughout this book have the potential to build resilience and foster

sustainable development. We hope that the detailed analyses and tailored country-by-country reform agendas presented here become an evidence-based, practical tool to motivate and inform institutional enhancements with the potential to improve lives across the Caribbean.

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