

# DIGITALES ARCHIV

ZBW – Leibniz-Informationszentrum Wirtschaft  
*ZBW – Leibniz Information Centre for Economics*

Kemper, Johanna (Ed.)

## Book

# The KOF education system factbook: South Africa

**Provided in Cooperation with:**  
ETH Zürich

*Reference:* (2017). The KOF education system factbook: South Africa. Edition 1. Zurich, Switzerland : ETH Zurich, KOF Swiss Economic Institute.  
doi:10.3929/ethz-b-000236189.

This Version is available at:  
<http://hdl.handle.net/11159/2928>

## Kontakt/Contact

ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics  
Düsternbrooker Weg 120  
24105 Kiel (Germany)  
E-Mail: [rights\[at\]zbw.eu](mailto:rights[at]zbw.eu)  
<https://www.zbw.eu/econis-archiv/>

## Standard-Nutzungsbedingungen:

Dieses Dokument darf zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden. Sie dürfen dieses Dokument nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, aufführen, vertreiben oder anderweitig nutzen. Sofern für das Dokument eine Open-Content-Lizenz verwendet wurde, so gelten abweichend von diesen Nutzungsbedingungen die in der Lizenz gewährten Nutzungsrechte.  
<https://zbw.eu/econis-archiv/terms-of-use>

## Terms of use:

*This document may be saved and copied for your personal and scholarly purposes. You are not to copy it for public or commercial purposes, to exhibit the document in public, to perform, distribute or otherwise use the document in public. If the document is made available under a Creative Commons Licence you may exercise further usage rights as specified in the licence.*

**KOF** Swiss Economic Institute

# The KOF Education System Factbook: South Africa

Edition 1, December 2017

# KOF

ETH Zurich  
KOF Swiss Economic Institute  
LEE G 116  
Leonhardstrasse 21  
8092 Zurich, Switzerland

Phone +41 44 632 42 39  
Fax +41 44 632 12 18  
[www.kof.ethz.ch](http://www.kof.ethz.ch)  
[kof@kof.ethz.ch](mailto:kof@kof.ethz.ch)

## Table of Contents

FOREWORD .....	V
SUMMARY .....	VI
EDITING AND ACKNOWLEDGEMENTS .....	VI
<b>1. The South African Economy and its Political System .....</b>	<b>1</b>
1.1 The South African Economy .....	1
1.2 The Labour Market .....	4
1.2.1 Overview of South Africa's Labour Market .....	4
1.2.2 The Youth Labour Market .....	6
1.2.3 The KOF Youth Labour Market Index (KOF YLMI) for South Africa .....	7
1.3 The Political System .....	8
1.3.1 Overview of South Africa's Political System .....	8
1.3.2 Politics and Goals of the Education System .....	11
<b>2. Formal System of Education .....</b>	<b>11</b>
2.1 Pre-Primary Education .....	14
2.2 Primary and Lower Secondary Education .....	15
2.3 Upper secondary Education .....	16
2.4 Postsecondary / Higher Education .....	16
2.5 Continuing Education (Adult Education) .....	18
2.6 Teacher Education .....	18
<b>3. The System of Vocational and Professional Education and Training .....</b>	<b>19</b>
3.1 Vocational Education and Training (VET; Upper Secondary Education Level) .....	19
3.1.1 N-programmes .....	20
3.1.2 NCV programmes .....	20
3.1.3 Occupational qualifications .....	21
3.1.4 Technical schools .....	21
3.1.5 Learnerships, Apprenticeships and Skills Programmes .....	22
3.1.6 Outlook .....	22
3.2 Professional Education and Training (PET; Post-Secondary Level) .....	23
3.3 Regulatory and Institutional Framework of the VPET System .....	23
3.3.1 Central Elements of VPET Legislation .....	23
3.3.2 Key Actors .....	24
3.4 Educational Finance of the VPET System .....	25
3.4.1 Educational finance of the VET system .....	26
3.4.2 Educational finance of the PET system .....	26
3.5 Curriculum Development .....	27

3.5.1	Curriculum Design Phase.....	27
3.5.2	Curriculum Application Phase .....	29
3.5.3	Curriculum Feedback Phase .....	29
3.6	Supplying Personnel for the VPET System (Teacher Education).....	30
<b>4.</b>	<b>Major Reforms in the Past and Challenges for the Future .....</b>	<b>31</b>
4.1	Major reforms .....	31
4.2	Major challenges .....	32
<b>References.....</b>		<b>34</b>

## List of Figures

Figure 1: Employment by sector (as percent of total employment), 2000-2015.....	3
Figure 2: YLM-Indicators South Africa versus OECD, 1991-2014.....	8
Figure 3: The South African education system .....	12
Figure 4: Curriculum Value Chain (CVC) .....	27

## List of Tables

Table 1: Value added and employment by sector in 2015 .....	3
Table 2: Labour force participation rate, unemployment rate by age 2015.....	6
Table 3: Enrolment (in thousands and in percent) at different educational levels, 2016.....	13
Table 4: Educational attainment of the population aged 25 years and older, 2014 .....	14

## List of Abbreviations

GCI	Global Competitiveness Index
GII	Global Innovation Index
GDP	Gross Domestic Product
ISCED	International Standard Classification of Education
KOF	Swiss Economic Institute
OECD	Organisation for Economic Co-operation and Development
PET	Professional Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organization
VET	Vocational Education and Training
VPET	Vocational Professional Education and Training
VPETA	Vocational and Professional Education and Training Act
WEF	World Economic Forum
YLMI	Youth Labour Market Index

## FOREWORD

In the last years, vocational education and training has received more and more attention. The increased pressure to upgrade the skills of the workforce through an increasingly competitive world economy, or the high youth unemployment rates in the aftermath of the world economic crises putting pressure on politicians to provide solutions could be part of the reason why. In fact, vocational education and training has been suggested as one major solution to these problems since it provides an education pathway for those who do not continue with tertiary education and helps upgrading the skills of those who would have started working immediately and had received some form of on-the-job training.

The increased attention for vocational education and training was in particular perceptible among policy makers. In Europe, the European Commission defined common objectives for the further development of the vocational education and training systems of the European countries for 2020 and an action plan for the upcoming years in the *Bruges Communiqué on enhanced European cooperation in vocational education and training for 2011-2020* (European Commission, 2010). In the United States, Obama mentioned in a speech that he wanted to increase the investment in vocational education and training system of the United States of America (The White House, 2015). In addition, many other countries worldwide, such as South Korea or Hong Kong, show increased interest in extending their vocational education and training system.

Worldwide, only a few countries have a well-elaborated and efficient vocational and professional education and training (VPET) system, among these the Swiss VPET system. It is a good example of how an education system can contribute to the successful matching between market demand and supply. It is highly efficient in getting the adolescents into the labour market (7.7 percent from 2005-2012, compared to the OECD average of 14.6 percent (OECD, 2015c)).

Though not many countries have a VPET system that is comparable to Switzerland, many have a vocational component in their education system. To provide information about the education systems of other countries, with a special focus on the part of the education system teaching vocational skills, is the major purpose of the KOF Factbooks Education System Series.



## SUMMARY

In the KOF Factbook Education System: South Africa we will describe the vocational system of South Africa in general and in particular refer to factors which are crucial for the functioning of the system. Among others, these comprise the regulatory framework and the governance of the VPET system, specifying the actors that are involved and which competencies and duties they have. Further, the curriculum development and the actors involved in this process, as well as the financing of the system, etc.

The Factbook is structured as follows. We will refer to South Africa's economy, labour market, and political system in the first part of this Factbook. The second part describes the entire formal education system. Then, we explain the vocational part of South Africa's education system in the third part. Finally, the last section gives a perspective about the set of reforms South Africa's education system went through in the past and will face in the future.

## EDITING AND ACKNOWLEDGEMENTS

This Factbook is edited by Johanna Kemper. For the elaboration of the contents, we want to thank Myriel Ravagli. Without you all, the realisation of this Factbook would have been impossible!

**The KOF Factbook Education System Series is work in progress. The authors do not claim completeness of the information, which has been collected carefully and in all conscience. Any suggestions for improvement are highly welcome!**

**Contact: [factbook@kof.ethz.ch](mailto:factbook@kof.ethz.ch)**

### **Suggested citation:**

KOF Swiss Economic Institute (2017). KOF Factbook Education System: South Africa. KOF Factbook Education System Series, ed. 1. Zurich: Swiss Federal Institute of Technology.

# 1. The South African Economy and its Political System

One of the main purposes of an education system is to equip the future workforce with the skills needed in the labour market. The particularities of a country's economy and labour market are important factors determining the current and future demand for skills. Therefore, these will briefly be described in the first part of this Factbook. In addition, this part provides an overview of South Africa's political system with emphasis on the description of the education politics.

## 1.1 The South African Economy

The Republic of South Africa (hereafter South Africa) is an emerging market and since 2010 member of the so-called "BRICS", an association of the major emerging economies including Brazil, Russia, India, China and South Africa. South Africa possesses the largest African stock exchange, an abundance of natural resources (hence the importance of its mining sector) as well as a beautiful landscape that makes the country attractive for tourism. (CIA, 2017)

Over the 20<sup>th</sup> Century, the South African population had grown strongly, between 1985 and 1995 alone it rose from 33 to more than 41 million people, with an average growth rate of 2.28 percent (UN, 2015). In the late 1990s, this rapid increase was mitigated by the occurrence of the HIV/AIDS epidemic. Between 1996 and 2015, the average growth rate shrunk to 1.37 percent. With the beginning of the 21<sup>st</sup> Century, the death rate of South Africa lingers on a level twice as high as the world average (Encyclopædia Britannica, 2017), mostly because of HIV/AIDS. In 2015, South Africa had a population of 54 million inhabitants (UN, 2015).

In 2015, GDP per capita of South Africa was 7'539 US\$.<sup>1</sup> As a comparison, the neighbouring country Botswana achieved a GDP per capita of 7'080 US\$ in the same year, while the OECD average was 37'457 US\$ (World Bank, 2017a).

Economic growth was low in the 1990s – the years after the end of the apartheid-regime. South Africa's compound GDP growth rate<sup>2</sup> was around 1.4 percent, at the same time the average growth rate of the OECD countries was 2.6 percent (World Bank, 2017b). However, in the first 10 years of the new century, South Africa's economy experienced strong economic upturn: the GDP was growing 3.6 percent each year, which was driven (at least in parts) by commodity trade. The economy had severely suffered from the constant downswing of global market prices for commodities in 2011, since then the GDP growth rate shrunk to 2.1 percent per year until 2015 (World Bank, 2016, p. 15).

---

<sup>1</sup> Constant 2010 US\$.

<sup>2</sup> Constant prices, constant PPPs, OECD base year.

In 2010, South Africa was the country with the highest degree of income inequality in the world (among those countries where data was available) with a Gini-index of 63.4 (World Bank, 2016, p. 25). In comparison, the United States had a Gini-index of 40.5 in the same year and the neighbouring country Botswana 60.5 in 2009 (World Bank, 2017c). The World Bank identifies the large amount of people without a job as one of the main reasons for this inequality (for more information about the South African labour market see the subchapter 1.2).

Despite this drastic inequality, South Africa has successfully lowered the extreme poverty through redistribution through its tax and benefits system (OECD, 2015a, p. 6). From 2000 to 2011, the amount of people that experienced extreme poverty (share of population living with less than 1.9 US\$ a day) fell from 11.7 percent to 4.9 percent (World Bank, 2017d), leaving the country with one of the lowest proportion of poor people in Sub-Saharan Africa (World Bank, 2016, p. 27).

The tertiary or services sector is the most important sector of South Africa's economy: it generates more than two-thirds (68 percent) of total value-added and provides for almost 72 percent of total employment in the formal sector (see Table 1). In 2016, the main contributors to GDP growth in this sector have been finance, real estate, business services and trade, catering and accommodation (STATS SA, 2017, p. 12). According to the OECD (2015a, p. 2), South Africa's well-developed financial system is a very promising part of the economy. The key institution preparing the ground for the well-functioning financial system is the South Africa Reserve Bank (SARB), which runs a very sound monetary policy (OECD, 2015a, p. 13). Thereby, the financial markets and the banking sector are important contributors to the success of the financial sector. One important spot for the financial sector is the Johannesburg Stock Exchange (Encyclopædia Britannica, 2017).

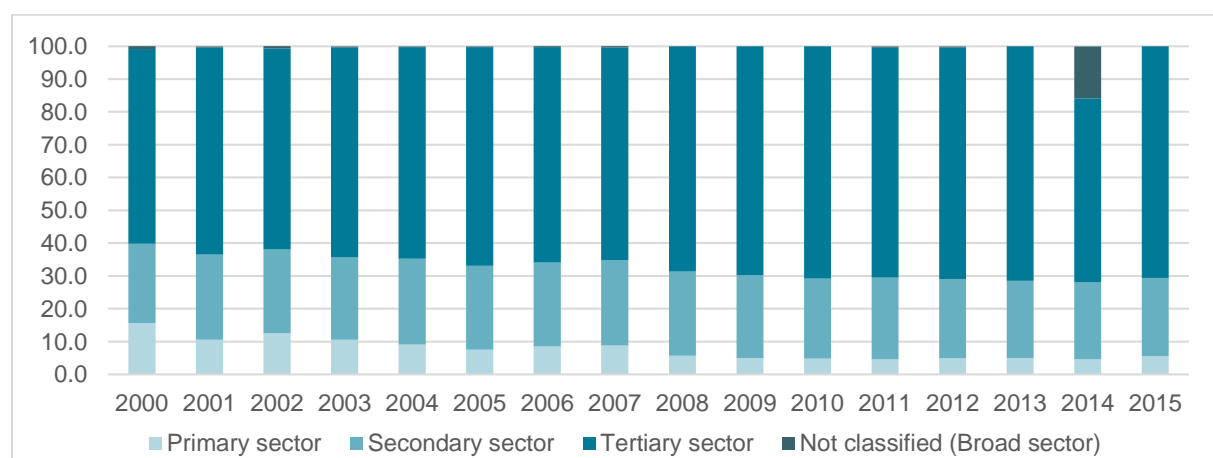
Compared to the average of the 28 EU Member States, the secondary sector plays a more central role in South Africa. It accounted for 29.5 percent of total value added in 2015 (EU-28: 24.4 percent). Accordingly, it is also important in terms of employment (23.5 percent versus 21.8 percent in the EU-28). Therein, the mining sector provided for one quarter (25.4 percent) of total value-added. The mining sector is traditionally one of the most important economic sectors because the generated profits are often invested in other areas (Encyclopædia Britannica, 2017). South Africa possesses many natural resources, such as gold, diamonds, platinum and carbon. Due to the importance of its mining sector, South Africa's export balance is highly dependent on the global market price of commodities (OECD, 2015a, p. 9).

**Table 1: Value added and employment by sector in 2015**

Sector	South Africa: Value added (%)	EU-28: Value added (%)	South Africa: Employment (%)	EU-28: Employment (%)
Primary sector	2.5	1.6	4.6	4.9
Agriculture, hunting and forestry, fishing	2.5	1.6	4.6	4.9
Secondary sector	29.5	24.4	23.5	21.8
Manufacturing, mining and quarrying and other industrial activities	25.4	19.1	15.2	15.5
of which: Manufacturing	13.3	15.6	11.6	13.9
Construction	4.1	5.3	8.2	6.3
Tertiary sector	68.0	74.0	71.9	73.3
Wholesale and retail trade, repairs; hotels and restaurants; transport; information and communication	24.8	23.8	21.1	27.4
Financial intermediation; real estate, renting & business activities	20.5	27.4	13.4	16.1
Public administration, defence, education, health, and other service activities	22.7	22.8	37.4	29.8

Source: Eurostat (2017a; 2017b), OECD (2017a; 2017b).

Considering the development of employment in different sectors over time (see Figure 3), South Africa's economy has evolved in a way similar to many other industrial countries: the importance of the tertiary sector has increased with the further development of the economy.

**Figure 1: Employment by sector (as percent of total employment), 2000-2015**

Source: own illustration based on ILOSTAT (2017a).

In 2000, almost 60 percent of the workforce had a job in the tertiary sector; in 2015, this number rose to 70 percent. During the same time, the proportion of people working in agriculture more than halved. The decline in the importance of the secondary sector was due to the mentioned deterioration of commodity prices and the crisis in the mining business.

The South African economy ranked 49<sup>th</sup> on the Global Competitiveness Index (GCI) issued by the World Economic Forum (WEF) in 2015-2016 (WEF, 2017). With this position in the ranking, it is the most competitive country of the African continent. Key factors of these good results are South Africa's well-functioning financial markets, its strong domestic competition and the well-developed transport infrastructure. As obstacles for competitiveness, the WEF identifies the pronounced government regulations for business, the inflexible labour market and the inefficient electric supply (WEF, 2017). In addition, the WEF criticizes that the education system would not promote the skills that are needed by the economy.

With respect to innovation, South Africa scores almost on the same level. It is ranked 54<sup>th</sup> on the Global Innovation Index (GII) (Dutta et al. 2016). With this result, South Africa is the second most innovative country in Sub-Saharan Africa, just behind Mauritius. Not reaching the status of an "innovation achiever", South Africa nonetheless outperforms other countries of the same income group (upper-middle-income) in 5 out of 7 GI pillars. Strengths lie in innovation quality, high ranked universities, the large amount of filed patents and the number of produced citable documents with a high h-index<sup>3</sup>. South Africa also achieves high scores in market sophistication, which means that there is a good atmosphere for financial investments and the strong domestic competition. The country's weaknesses lie in the area of ecological sustainability and the lack of creative output (measured in output rates on YouTube and generic top-level domains and so forth) (Dutta et al. 2016, p. 281).

## **1.2 The Labour Market**

In the first part of this section, we will describe the general situation of South Africa's labour market. In the second part, we will refer to the youth labour market in particular.

### **1.2.1 Overview of South Africa's Labour Market**

South Africa has a strong and (partially) militant labour movement. Trade unions operate freely and can rely on well-developed labour rights (Bureau of Democracy, Human Rights and Labor, 2015, p. 47). Unions are independent and the government respects the right of collective bargaining. Furthermore, union density is quite high: 29.6 percent in 2012 (ILOSTAT, 2017b) compared to an average of 17.6 percent in the OECD countries (OECD, 2017d).

Employment protection legislation (EPL) provides special protection for trade union members: for example, there is an automatic reinstatement of workers fired because of union activism (Bureau of Democracy, Human Rights and Labor, 2015, p. 47). The extent and effectiveness of EPL varies between industries: health and security rules in the mining sector are especially strict, also due to high trade union affiliation rates. EPL is being infringed most in the farming

---

<sup>3</sup> The h-index gives information on how often a certain article has been cited.

business, where market deregulations have put small farmers under constant financial pressure (Bureau of Democracy, Human Rights and Labor, 2015, p. 53). In general, industrial relations are more conflict-prone than consensual, sometimes wildcat strikes break out disruptively and turn violent. In the last couple of years strike activities increased sharply. In 2014, almost 12 million working days were lost through work stoppages in the private sector (0.5 percent of total working days) –the highest amount since two decades (OECD, 2015a, p. 12). The OECD (2015a, p. 2) identifies the conflictive nature of South Africa's labour relations as a major threat to further economic growth and job creation.

Overall, EPL in South Africa is rather moderate when compared internationally. According to the OECD Indicator of Employment Protection, which measures the bureaucratic and direct costs involved in dismissing individuals and the additional provisions for collective dismissals of persons with regular contracts South Africa had an index value of 2.01 compared to 2.31 for the OECD average in 2012. In particular, the regulation of fixed-term and temporary work agency contracts is low. Here, South Africa has a very low score of 0.58 compared to the OECD average of 2.09 (OECD, 2017e).

A rather large amount of people work in the informal sector. In 2013, 25 percent of all employment was informal employment. However, this number has been rather constant, fluctuating between 20 and 25 percent between 2005 and 2013 (Festus, Lyle; Kasongo, Atoko; Moses, Mariana; Yu, Derek, 2015, p. 38).

The Labour Force Participation Rate (LFPR) for those aged between 15 to 64 in South Africa was low (58.8 percent) compared to the OECD average (71.3 percent) in 2015 (see Table 2). For the same age group, unemployment was tremendously higher in South Africa than the OECD average (25.3 versus 7 percent).

South Africa has a drastic problem with youth unemployment. Just 26.6 percent of the population aged between 15 and 24 are in the labour force (employed or actively looking for a job) of which 50 percent are without work. The main reason for this tremendously high unemployment rate is the fact that the South African economy does not have the job creation capacity needed to absorb the steadily increasing labour force, which in turn reflects the strong expansion of the population (partially because of immigration) (OECD, 2015a, p. 10). According to the OECD (2015a, p. 18), the key factors hindering the creation of new jobs are the conflictive labour relations, the difficulties to start and run a business, the poor quality of education and the lack of connection between vocational training and the economy's needs.

The labour force participation rate of those aged 25 to 64 years is higher than that of the youth (South Africa 71.3 percent vs. 76.9 percent in the OECD countries). However, the difference

between the unemployment rates is quite remarkable: over 21 percent of South Africa's labour force in this age range are unemployed, compared to 6 percent in the OECD member states.

**Table 2: Labour force participation rate, unemployment rate by age 2015**

	Labour force participation rate		Unemployment rate	
	South Africa	OECD average	South Africa	OECD average
Total (15-64 years)	58.8	71.3	25.3	7.0
Youth (15-24 years)	26.6	47.1	50.1	14.0
Adults (25-64 years)	71.3	76.9	21.6	6.0

Source: OECD (2017c).

With respect to the educational attainment, South Africa's labour market follows the same path as the average of the OECD countries (see Table 3). The higher the share of well-educated people in a country, the higher the probability that these people are in employment, i.e. the higher is the labour force participation rate.

Especially people with less than upper secondary education do not participate in the South African labour market very often (LFPR of 53.7 percent). The same tendency holds for the unemployment rate: A high educational achievement reduces the probability to become unemployed.

**Table 3: Labour force participation rate, unemployment rate by educational attainment 2014 (persons aged 25-64)**

	Labour force participation rate		Unemployment rate	
	South Africa	OECD average	South Africa	OECD average
Less than upper secondary education	53.7	63.2	26.0	13.5
Upper secondary level education	75.4	79.6	20.2	8.0
Tertiary education	84.7	87.6	7.1	5.3

Source: OECD (2017c).

### 1.2.2 The Youth Labour Market

To compare the labour market situation of adolescents across countries, the KOF Swiss Economic Institute developed the KOF Youth Labour Market Index (KOF YLMI; Renold et al., 2014). The basic idea behind this index is that a single indicator, such as the unemployment rate, does not suffice to describe the youth labour market adequately and to provide enough information for a comprehensive cross-country analysis. To improve the information content of

such an analysis and to foster a multi-dimensional approach, the index consists of twelve labour market indicators<sup>4</sup>, which the authors summarize in four categories.

The first category describes the *activity state* of the young, specifically of those between 15-24 years old, on the labour market. Therein, adolescents are classified according to whether they are employed, in education or neither of both (unemployed, discouraged and neither in employment nor in education or training, see info box to the right). The category *working conditions* and the corresponding indicators reflect the kind and the quality of jobs of the working youth. The *education* category

accounts for the share of adolescents in education and training and for the relevance of and need for their skills on the labour market. The fourth category, *transition smoothness*, shall connect the other three categories by capturing the school-to-work transition phase of the youth. Each indicator of the KOF YLMI ranges from 1 to 7. Thereby, a higher score reflects a more favourable situation on the youth labour market and a more efficient integration of the youth in the labour market.

One of the major drawbacks of the KOF YLMI is the data availability. Often, a category is based on a single indicator or no indicator for that category exists at all. This could make comparisons across countries or groups of countries problematic or even impossible.

### 1.2.3 The KOF Youth Labour Market Index (KOF YLMI) for South Africa

The condition of the youth labour market is of critical importance to South Africa's society. In 2016, 50 percent of the country's population was under the age of 26.8 years (CIA, 2017). In comparison, the median age of the EU-28 was around 42 years in 2015 (Eurostat, 2017c).

Dimensions of the KOF YLMI
<b>Activity state</b> <ul style="list-style-type: none"> <li>- Unemployment rate</li> <li>- Relaxed unemployment rate<sup>5</sup></li> <li>- Neither in employment nor in education or training rate (NEET rate)</li> </ul>
<b>Working conditions</b> <p>Rate of adolescents:</p> <ul style="list-style-type: none"> <li>- with a temporary contract</li> <li>- in involuntary part-time work</li> <li>- in jobs with atypical working hours</li> <li>- in work at risk of poverty<sup>6</sup></li> </ul> <p>Vulnerable unemployment rate<sup>7</sup></p>
<b>Education</b> <ul style="list-style-type: none"> <li>- Rate of adolescents in formal education and training</li> <li>- Skills mismatch rate</li> </ul>
<b>Transition smoothness</b> <ul style="list-style-type: none"> <li>- Relative unemployment ratio<sup>8</sup></li> <li>- Long-term unemployment rate<sup>9</sup></li> </ul>
Source: Renold et al. (2014).

<sup>4</sup> The data for these indicators are collected from different international institutions and cover up to 178 countries for the time period between 1991 and 2012.

<sup>5</sup> It is calculated as the number of unemployed and discouraged workers as a share of the entire labour force. Discouraged workers have given up the search for work (not actively seeking), although they have no job and are currently available for work (also: "involuntary inactive").

<sup>6</sup> Those who cannot make a decent living out of their earnings, being at risk of poverty as a percentage of the working population.

<sup>7</sup> Share of the employed population working on their own account or those working in their family business and thus contributing to the entire family income. Both are less likely to have formal work arrangements and are therefore less protected by labour laws and more exposed to economic risk.

<sup>8</sup> Is defined as the youth unemployment rate (15-24 years) as a share of the adult unemployment rate (25+). If the youth cohort is affected in the same way than the adult group with respect to unemployment, then the relative unemployment ratio will be equal to one. If the youth are relatively more affected, then the ratio will be bigger than one.

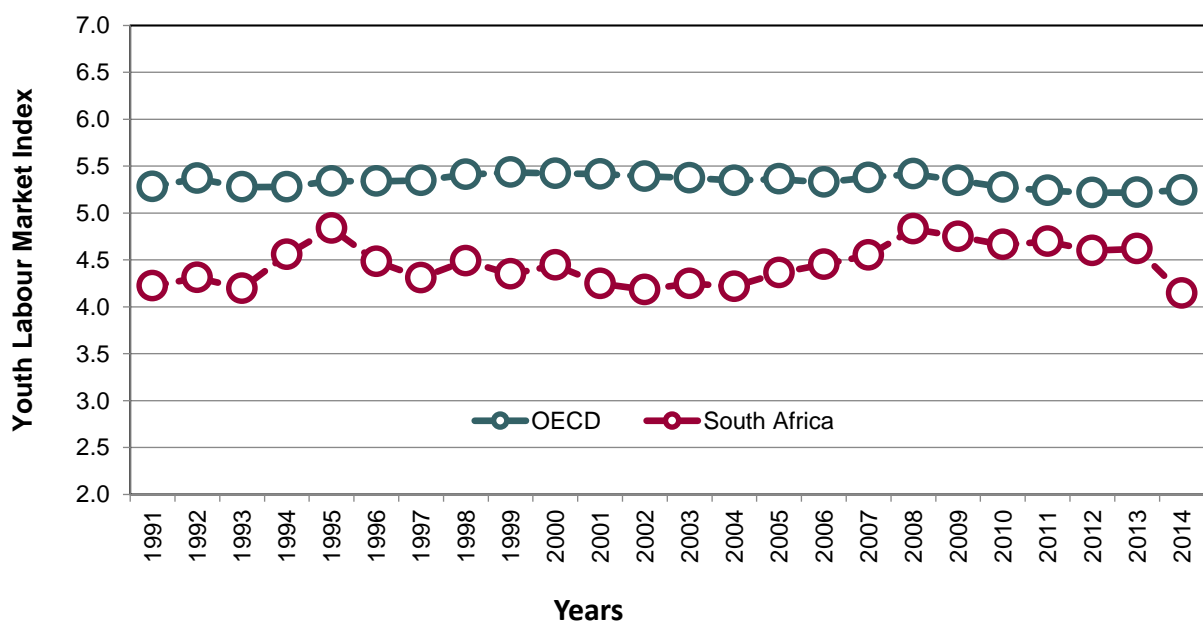
<sup>9</sup> Those unemployed for more than one year (52 weeks) in the total number of unemployed (according to the ILO definition).



As Figure 2 shows, in the beginning of the new century, the YLMI-score of South Africa had increased and approximated to the OECD average (but still on a lower level). Like in the other OECD countries, the conditions on the youth labour market have deteriorated after the financial crisis of 2008. In 2010, the difference between the OECD and the South African YLMI-score started to increase again.

It should be pointed out that in the case of South Africa, the index consists of only five indicators because data is missing on most indicators usually included in the YLMI. If data for more indicators is available in the future, the relative performance may change.

**Figure 2: YLM-Indicators South Africa versus OECD, 1991-2014**



Source: (KOF, 2017).

### 1.3 The Political System

Understanding the basics of a country's political system and getting to know the political goals with respect to its education system are crucial points for the understanding of the education system in a broader sense. In the first part, we explain South Africa's political system in general. The politics and goals regarding the education system will be referred to in the second part.

#### 1.3.1 Overview of South Africa's Political System

In 1806, the British occupied Cape Colony, hitherto in the power of the Dutch Batavian Republic, which caused many Dutch settlers, also "Afrikaners" or "Boers", to move on to the northern country side to found their own republics and occupy more land from the indigenous black inhabitants. The discovery of gold and diamonds in the second half of the 19<sup>th</sup> century

promised wealth and boosted immigration, which intensified the subjugation of the black population. Even though the British defeated the Afrikaners in the Second South African War (1899-1902), both governed together the Union of South Africa since 1910, which was founded out of four colonies as a dominion of the British. The National Party, dominated by the successors of the Dutch settlers ("Afrikaner"), was voted into power and instituted the policy of apartheid- which means "apartness" in Afrikaans- in 1948 (CIA, 2017).

However, racial discrimination in South Africa started much earlier, when the Dutch settlers introduced laws and regulations in 1788 that gave white settlers more rights and privileges than native Africans. In the beginning of the 1950s, several acts were passed that established the apartheid regime. Thereby, the Group Areas Act from 1950 was the "core of apartheid". It provided for a racial segregation between blacks and whites (Evans, 2017).

The apartheid regime had a big impact on South Africa's education system by providing high-quality education for the white minority and purposely low-level education for the (black) masses. The impacts of this system are still noticeable today, more than twenty years after the end of apartheid. Many of the formerly disadvantaged schools are still disadvantaged in terms of infrastructure, teaching facilities and staffing (DHET, 2012, p. 7). The government has made it a priority to equalize schools for a long time, but the progress is rather slow. In 2011, it initiated the ASIDI programme to at least eradicate and sanitize so-called "mud schools", which lack even basic services such as water, toilets and electricity (Government Communications, 2016a, p. 144). However, there is still a long way to go until the disadvantaged schools reach a similar level as the privileged schools.

The African National Congress (ANC) was the head of the opposition to the Apartheid-regime. Many of its leaders went to prison for decades, including Nelson Mandela. In 1994, the Apartheid ended with the first multi-racial elections, which resulted in an ANC-led government (CIA, 2017). Since then, South Africa's political system is classified as a parliamentary republic. The country has nine administrative divisions –so called provinces-: Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, Northern Cape, North West and Western Cape. The legislative consists of a bicameral parliament, consisting of the National Council of Provinces (90 seats, 10 per province) and the National Assembly (400 seats, members are directly elected). Members of both chambers are authorised for 5 years by the electorate. The president who incorporates the functions of chief of state as well as head of government heads the executive. Since 2009, this position is held by Jacob Zuma, president of the ANC. Above the legislative is the Supreme Court of Appeals (21 judges, headed by the court president) and the Constitutional Court (9 judges, headed by the chief justice) (CIA, 2017).

The Worldwide Governance Indicators (WGI) of the World Bank are a tool to evaluate the outcomes of the governance of a certain country, consisting out of six aggregated measures (World Bank, 2017e). Since 1996, South Africa's relative position compared to other countries stayed the same or even deteriorated with respect to most of these indicators. Especially the perceived "Control of Corruption" declined over the years: in 1996, South Africa belonged to the 79<sup>th</sup> percentile, in 2015 to the 58<sup>th</sup>. Out of all indicators, South Africa performs worst on the "Political Stability and Absence of Violence/Terrorism" indicator. 2015 it scored on the 39<sup>th</sup> percentile (with a slight improvement since 1996). This score reflects the prevalence of a high crime rate, South Africa being one of the ten countries with the highest homicide rates in the world (32 per 100'000 inhabitants) (The Institute for Economics and Peace, 2016, S. 83). In spite of a slight deterioration over time, South African's perceptions of the extent to which they are able to participate in selecting their government (measured by the indicator "Voice and Accountability") is a relative strength of the political system (69<sup>th</sup> percentile). The Rankings of the "Regulatory Quality" (64<sup>th</sup> percentile) and the "Government Effectiveness" (65<sup>th</sup> percentile) are comparatively good as well. Keeping in mind the low initial level, South Africa's government can be acknowledged to have made considerable progress in extending the confidence of its citizens in the "Rules of Law" (from the 50<sup>th</sup> percentile in 1996 to the 59<sup>th</sup> percentile in 2015) (World Bank, 2017e).

In order to get an idea of the quality of South Africa's democracy, it is useful to look at its scores on the Democracy Index by the Economist Intelligence Unit. With a score of 7.41, South Africa is placed 39<sup>th</sup> in the overall Democracy Index in 2016 (The Economist Intelligence Unit, 2017, p. 8). This result is the fourth best in whole Sub-Saharan Africa (right behind South Africa's neighbour Botswana) (The Economist Intelligence Unit, 2017, p. 48). South Africa's strengths are the wide enabling of political participation (8.33), the protection of civil liberties (7.94) and its electoral process (7.92). As a weakness of the democracy, the Economist Intelligence Unit identifies the weak overall political culture (5.00).

In the 2016 Transparency International's Corruption Perception Index, South Africa placed 64<sup>th</sup> of all countries in the world. With this result, it ranked 8<sup>th</sup> in Sub-Saharan Africa (Transparency International, 2017). According to the detailed survey results of 2015, 83 percent of the South African respondents think that corruption has increased over the past year (Transparency International, 2015, S. 6). This is the biggest share in whole Sub-Sahara Africa. Another striking finding was that 4 out of 5 persons say the government is doing badly in fighting corruption (Transparency International, 2015, S. 11). Nonetheless, the proportion of respondents, that actually paid a bribe in the last 12 months, is -compared to the Sub-Saharan Africa average with 7 percent- rather small (South Africa ranked on the 5<sup>th</sup> last place) (Transparency International, 2015, S. 14).

### **1.3.2 Politics and Goals of the Education System**

In 2009, the Department for Education was split into two new sections: The Department of Basic Education (DBE), responsible for the education from Grade R to Grade 12 (including adult literacy programmes), and the Department of Higher Education and Training (DHET), charged with the task of post-school education and training in universities, colleges and adult education centres. One of the main reasons of the creation of the new Department of Higher Education and Training was that prior to 2009 responsibilities for education and training had been divided between the Department of Education and the Department of Labour and sometimes weakly coordinated (Field, Musses, & Álvarez-Galván, 2014, S. 8). In addition to these national institutions, each of the nine provinces has its own Department of Education. Financing and management of schools is mostly in the responsibility of the provincial departments (Government Communications, 2016b, S. 67). However, concerning higher education there are some efforts to confer more power directly to the DHET. Especially for the TVET functions and the adult education and training functions, it is planned to shift from the provincial to the national level (Government Communications, 2016a, p. 148).

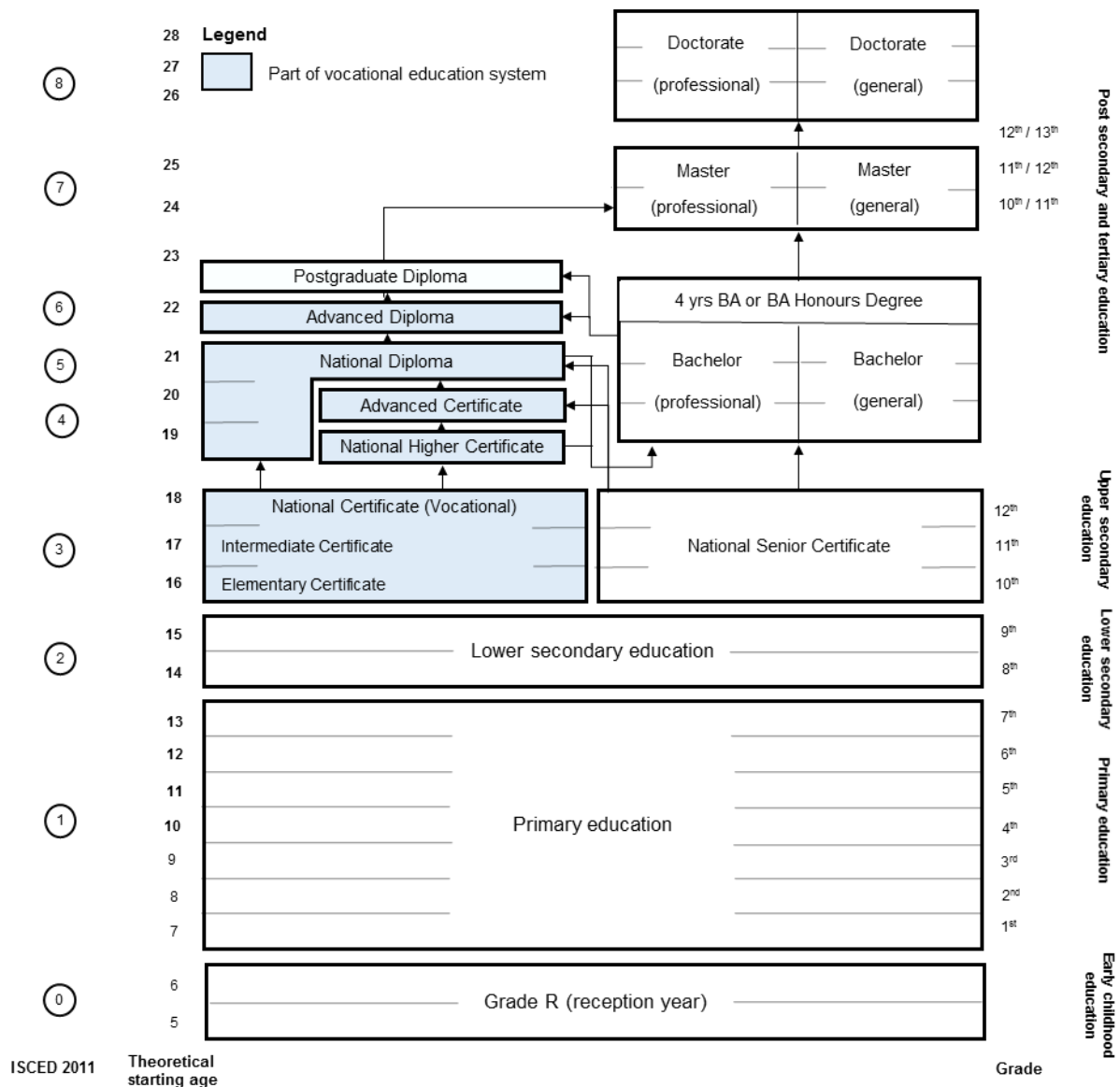
In order to address the problem of high youth unemployment, there are ambitious plans to expand the TVET college system up to 2.5 million enrolments by 2030 (Field, Musses, & Álvarez-Galván, 2014, S. 9). Currently, there are still some major challenges to deal with. For example, there is a confusing mix of overlapping and competing programmes and qualifications, which should be simplified (Field, Musses, & Álvarez-Galván, 2014, S. 10). Furthermore, the existing vocational programs do not sufficiently manage to develop the skills that are actually needed by the economy (Field, Musses, & Álvarez-Galván, 2014, S. 11). An additional problem lies in the disbursement of the training levies by the Sector education and training authorities (Setas), which turns out to be highly ineffective (Field, Musses, & Álvarez-Galván, 2014, S. 12). Furthermore, the high TVET college dropout rates have to be addressed and career guidance for students developed (Field, Musses, & Álvarez-Galván, 2014, S. 13). More details will be described in more detail in Chapter 3.

## **2. Formal System of Education**

In South Africa, public school spans grade R (“R” stands for “reception year”) to grade 12. Schooling is compulsory for ages 7 to 16 or until grade 9, whichever occurs first (International Bureau of Education, 2011). In the last years, efforts have been made to establish full enrolment of learners in grade R and it is planned to be included into compulsory schooling. Considerable progress has taken place in this respect: in 2014, 96 percent of children in grade 1 had received schooling in the previous year, compared to 85 percent in 2009 (DBE, 2015, p.

28). After completing grade 9, pupils have the option to continue upper secondary education with a general or vocational focus<sup>10</sup>. Post-secondary and tertiary education are structured horizontally into a general, a professional and a vocational track. The South African higher education system is characterized by a multitude of attainable degrees and the various possibilities for horizontal progression between the three tracks. Figure 3 gives an overview over the education system.

**Figure 3: The South African education system<sup>11</sup>**



Source: Own compilation, based on (International Bureau of Education, 2011).

<sup>10</sup> Currently the vocational path is being restructured. Figure 3 only shows the newer NCV structure, although the older NATED-courses still exist in parallel (compare chapter 2.3).

<sup>11</sup> The size of the boxes does not coincide with the actual size or importance of the program in the education system.

Note that this overview is not complete, but more to get a general idea. There are many more vocational pathways possible than displayed in Figure 3 (N programmes, technical schools, universities of technology, see chapters 3.1 and 3.2).

Table 3 reports enrolment of students across educational levels. Enrolment rates have risen considerably in the last 20 years, with the most pronounced increase in the “Foundation Phase” of primary school (grade R - grade 3) and the further education and training phase (FET, grades 10-12). Here, net enrolment rates, reporting the percentage of enrolment in the respective age group, have risen from 44 percent in 1996 to 73 percent in 2011 in the case of the Foundation Phase and from 41 percent to 57 percent with regard to the FET-phase (STATS SA, 2012, p. 15). Despite this success in terms of enrolment rates, it has to be noted that the overall education quality is rather poor. For example, in the Annual National Assessment test conducted by the DBE in 2011 in grade 3, only 31 percent of pupils achieved the competencies specified in the curriculum with respect to literacy and only 17 percent with respect to numeracy. In grade 6, the respective values lay at 15 percent and 12 percent (DBE, 2011, S. 30-32).

**Table 3: Enrolment (in thousands and in percent) at different educational levels, 2016**

<b>Educational level</b>	<b>Enrolment (in thousands)</b>	<b>Enrolment (in % of total)</b>
<b>Total students</b>	<b>19,375</b>	<b>100.0</b>
Pre-school	2,439	12.6
Primary School	8,860	45.7
Secondary School	5,661	29.2
TVET including private colleges	735	3.8
Other college	273	1.4
Higher educational institution	1,065	5.5
Community education and training		
College	188	0.9
Home-based education/home schooling	20	0.1
Other	140	0.7

Source: STATS SA (2016, p. 51).

Table 4 shows educational attainment of the population aged 25 and older in comparison to the OECD average. While the percentage holding a Bachelor’s degree or equivalent in South Africa is comparable to the OECD average, the population with educational attainment below upper secondary level is remarkably high in South Africa with 58 percent (compared to 24 percent for the OECD average). Within South Africa, educational attainment varies strongly among population groups. In 2016, only 8-9 percent of Black African and Coloured people had attained post-secondary education compared to 38 percent of Whites, the Indian/Asian population lying somewhere in the middle with 21 percent (STATS SA, 2016, p. 16).

**Table 4: Educational attainment of the population aged 25 years and older, 2014**

<b>Educational level</b>	<b>South Africa</b>	<b>OECD average</b>
Below upper secondary		
Less than primary	15	2
Primary	5	7
Lower Secondary	38	15
Upper secondary or post-secondary non-tertiary		
<i>Upper secondary</i>		39
<i>Post-secondary non-tertiary</i>	28	5
Tertiary		
<i>Short-cycle tertiary education</i>		8
<i>Bachelor's or equivalent</i>	15	16
<i>Master's or equivalent</i>		11
<i>Doctoral or equivalent</i>		1
<b>Total</b>	<b>100</b>	<b>100</b>

Source: OECD (2015c; 2016).

## 2.1 Pre-Primary Education

Pre-primary education in South Africa is termed early childhood development (ECD) and is non-mandatory. This, along with a lack of publicly funded institutions, leads to the low ECD enrolment rate of 39 percent (STATS SA, 2016, p. 48). Concerning pre-school education, especially for children from birth to the age of four, the responsibility of the government consists mostly in regulating and funding ECD programmes provided by the non-government sector (NPOs and profit-orientated organisations) (Republic of South Africa, 2015, S. 43). Where public provision of ECD exists, it usually addresses children from the age of three onwards (UNESCO, 2010). By the end of 2014, almost 690'000 places for young children at ECD centres had been subsidised (Republic of South Africa, 2015, S. 42). At the age of five, pupils enter grade R.

The National Department of Social Development (DSD) is responsible for the universal availability and quality of pre-primary education- from birth up to the year before children enter primary school. The DSD develops and evaluates the ECD programmes in close coordination with the National Department of Basic Education (DBE). Every province has its own department of Social Development. The regional DSD's task is to monitor the implementation of the programmes, contracting with private providers of ECD and ensuring the availability and quality of the play and learning material (Republic of South Africa, 2015, S. 75-76). Concerning pre-school education, the DBE is responsible of developing the curriculum. The provincial DBEs are responsible for ensuring the quality and implementation concerning this curriculum. The National DBE concentrates most of its efforts in creating policies and programmes for the reception year (grade R) (UNESCO, 2010).

## **2.2 Primary and Lower Secondary Education**

Children enter primary school in the year they turn seven. This stage lasts seven years up to the age of 14. The DBE structures primary education in two phases: 1) The Foundation Phase and 2) the Intermediate Phase. The Foundation Phase includes the first three years of primary school (grades 1-3) as well as the reception year (grade R). Here, the curriculum focuses mainly on developing basic skills like reading, writing and math. In the Foundation Phase, pupils also start to learn a second language. With grade 4, the Intermediate Phase starts, lasting 3 years up to grade 6. Educational objectives of this phase are advancing reading and speaking skills in the mother tongue and the second language. Other school topics are geography, history, math, general science and handcraft (EP Nuffic, 2015).

In 2014, the pupil-teacher ratio for primary school was around 32:1 on average. Contrasted with the average of the OECD countries of 16 children per teacher, this is a quite bad situation for South Africa's teachers. However, South Africa's pupil-teacher ratio is better if compared to the Sub-Saharan region, where one teacher normally has 42 pupils on average (World Bank, 2017f).

Private schools play only a minor role in South Africa's education system. In 2016, 93 percent of all primary students went to a public school and only 7 percent were enrolled at a private institution (STATS SA, 2016, p. 50). Primary school is generally fee-based. However, families living below a certain income level can apply to be partially or completely relieved from this financial burden. In 2015, around 65 percent of all students benefited from this scheme (Government Communications, 2016b, S. 64). In poorer regions, educational institutions can apply to be classified as "No-Fees-School", where all the pupils can automatically attend without charge.

Lower secondary education lasts from grade 7 to 9 (age 14 to 16). The DBE classifies this stage as the senior phase. It concludes the General Education and Training Phase (GETP) (foundation, intermediate and senior phase) and marks the end of compulsory education. No certificate is awarded at the end of the GETP (EP Nuffic, 2015). The National DBE is responsible for all schools from grade R to 12, including adult literacy programs (Government Communications, 2016a, p. 134). The provincial DBEs are in charge with respect to finances and management of their schools. The National Curriculum Statement (NCS), introduced from 2012 to 2014, states what skills, knowledge and values are to be transmitted to pupils from grade R to 12.



## **2.3 Upper secondary Education**

Upper secondary education in South Africa is called “Further Education and Training” (FET) and it consists of the grades 10-12, usually from the age of 16 to 18. School-based and vocationally oriented programmes are subsumed under this phase (EP Nuffic, 2015, p. 8). In the school-based track, pupils study at least seven subjects - four are compulsory and three freely selectable. The mandatory courses are the native language (there are 11 official native languages), the first additional language, mathematics or mathematical literacy and life orientation. The elective courses cover a wide range of subjects, which can be classified in the following fields of learning (EP Nuffic, 2015, p. 8): Agriculture; Arts and Culture; Business, Commerce and Management Studies and Services; Languages, Manufacturing, Engineering and Technology; Human and Social Sciences; Physical, Mathematical, Computer and Life Sciences.

After completing grade 12, pupils take an exam, which leads to the National Senior Certificate (NSC). Depending on the test score, a NSC allows the admission for a National Higher Certificate program, a National Diploma program or a bachelor degree program.

The vocationally oriented programmes take place in TVET colleges and technical schools. There are different programmes to choose from, the most popular ones are the N or Nated programmes and the NCV programmes. A detailed description of these programmes is given in chapter 3.1.

## **2.4 Postsecondary / Higher Education**

The students who achieve the highest test scores at the end of upper secondary education can continue their studies in a bachelor programme (DHET, 2009, S. 9), which takes three or more years to complete (earlier exit is possible at diploma-level). The vocationally oriented postsecondary programmes take place mostly in universities of technology. Besides, TVET colleges also offer certain programmes that go into the postsecondary level (e.g. the continuation of the N-programmes N4-N6). A detailed description of these programmes is given in chapter 3.2.

In South Africa, there is the distinction made between generic and professional Bachelor degrees. Professional Bachelors allow the pursuit of a specific profession and can have a duration of up to six years, for example the Bachelor of Nursing Science (4 years) (EP Nuffic, 2015, p. 11). After finishing the professional Bachelor, there is the possibility to continue with a one-year advanced diploma course, which may provide entry-level vocational or professional preparation by offering an applied specialisation, which meets the necessities of a specific niche in the labour market (CHE, 2014, S. 31). After the Advanced Diploma, a student can

enrol for a more theoretically based postgraduate diploma (starting age 23, duration one year). The postgraduate diploma is in turn the requirement for a professional master's degree.

Students who passed the NSC with good grades have the possibility to apply directly for a generic Bachelor program (starting age 19). Some of those programs are structured as a 360-credit qualification or as a 480-credit qualification, and take 3 or 4 years, respectively. After a three-year Bachelor's program, graduates can apply for a one year-lasting Bachelor Honours Degree that intends to qualify for a master program. Alternatively, a 4-year bachelor program also qualifies for a master program. The university master program normally lasts one and a half years and includes carrying out an own research project. The highest academic degree is the doctoral degree (starting age 26, duration three years) (CHE, 2014, S. 32-41).

There are 25 public higher education institutions in South Africa: 11 universities, 8 universities of technology and 6 comprehensive universities. The 11 universities correspond to the traditional academic universities. They provide academic –more theoretically orientated- study programs, including bachelor, BA honours, masters and doctoral degrees. The universities of technology (formerly called “technikons”) are mainly professionally oriented. The study programmes have a practical focus, often with experimental or work integrated learning.

Comprehensive universities are the newest type of institutions in South Africa's higher education system. They are somewhat of a mixture of the classical universities and the universities of technology. The offered programs are more professionally oriented and cover a wide range of fields (EP Nuffic, 2015, p. 11). Private institutions also provide higher education. They receive no public funding and are owned by companies or private persons. Private institutions have to register with the DHET and the Council on Higher Education (CHE) must accredit their offered programs.

The governmental institution responsible for all the universities is the Department for Higher Education and Training (DHET). The Council on Higher Education (CHE) assists it. The CHE is an independent statutory body, whose mission is to develop and implement measures of quality assurance and to monitor and report on the state of the higher education system. Within the CHE, there is a permanent committee called Higher Education Quality Committee (HEQC), which takes care of the accreditation of study programmes in the sector of higher education. The Quality Council on Trades and Occupations (QCTO) has the responsibility to supervise the structure and implementation of occupational qualifications (EP Nuffic, 2015, p. 15).

## **2.5 Continuing Education (Adult Education)**

Concerning adult education, on the one hand there is the possibility for graduates to continue their studies at a later stage in life, after some years of work experience. On the other hand, the DHE announced in its White Paper from 2013 that adults who did not complete (or even never attended) school would have the opportunity to join one of the newly founded multi-campus community colleges. These new institutions combine the old Public Adult Learning Centres (PALC) under one roof. Adult learners have the opportunity to advance their General Education and Training Certificate with a Senior Certificate and the proposed new National Senior Certificate for Adults (NASCA). The government has planned to increase the headcount enrolment from 265 000 in the PALCs in 2011 to one million by 2030 (DHET, 2013).

The DHET is responsible for general development and financing of the community college system. Each single community college is supervised by a council, which includes ministerial appointees and community representatives (DHET, 2013, S. 22-23). Fees are kept at a minimum, because most of the people who visit a community college are rather poor.

## **2.6 Teacher Education**

South Africa's Teacher education used to take place in independent education colleges. However, between 1994 and 2000, these education colleges have been merged with larger existing higher education institutions (all types of universities and TVET colleges) (DBE; DHET, 2011, S. 25-26).

If a student wishes to educate Grade R children, he/or she has the possibility to aspire a Diploma in Grade R-Teaching. The minimum requirements are either a NSC or an NCV level 4 with a diploma entry endorsement or equivalent (DHET, 2015, S. 50). For all other education levels, future teachers have two options that will lead them to their profession: a Bachelor of Education (BEd) or a professionally focused Postgraduate Certificate in Education (PGCE). Within both qualification frameworks, a student can specialise in teaching either the Foundation Phase (grade R - grade 3) or subjects from four broad domains specific to the Intermediate Phase (grades 4 to 6), the Senior Phase (grades 7 to 9) and the Further Education and Training phase (grades 10 to 12) of schooling (DHET, 2015, S. 20.).

The minimum requirements for the BEd are a NSC or an NCV level 4 with endorsement for entry into bachelor studies. The BEd has a duration of four years, including some Work-Integrated Learning (WIL) phases. The PGCE "caps" a diploma or bachelor degree and takes one year. With both qualifications, a graduate can register at the South African Council for Educators (SACE) as a professional qualified teacher.

Experienced educationists, who want to play a leading role in their institution, teach more subjects or want to develop and deepen their scientific knowledge and skills, have the possibility to participate in a Continuing Professional Development (CPD) program. There are a lot of different CPD programmes, with different goals and durations, leading to different degrees (Advanced Certificate, Advanced Diploma, Bachelor of Education Honours, Master of Education und Doctor of Education) (DHET, 2015, S. 33).

### **3. The System of Vocational and Professional Education and Training**

This section of the Factbook describes in more detail the vocational education and training (VET) system at the upper secondary level and the professional education and training system (PET) at the tertiary level. Thereby, the term vocational and professional education and training (VPET) refers to both, the VET and the PET system.

#### **3.1 Vocational Education and Training (VET; Upper Secondary Education Level)**

After completion of the primary education, pupils are distributed into either general academic schools or technical schools at grade 8. Technical schools are the first option towards a vocationally oriented pathway, however they are not popular and only for the weakest students. Two years later, at grade 10, students from both academic and technical schools can choose again between technical vocational education and training (TVET) colleges, which provide a vocational pathway, and standard academic high schools.

The vocational education and training has been subject to many reforms. In 2002, 152 technical colleges were merged into 50 multi-campus institutions, which were renamed further education and training (FET) colleges. In 2013, they were renamed once more as technical vocational education and training (TVET) colleges (DHET, 2013, S. 12). The share of students who attend a public TVET college lies at roughly 85 percent and the share of students that attend a private TVET college at roughly 15 percent according to the OECD (2014, p. 23). However, the DHET (2013, S. 42) notes that the available data on private institutions are often inaccurate and incomplete. Regardless of the exact share of students, private institutions certainly play a significant role in providing vocational education in South Africa.

In South Africa, a confusingly high number of vocational programmes exist in parallel. There are five vocational qualification types (N or “Nated” programmes, NCV programmes, occupational qualifications, higher certificates and NSC with technical subjects) as well as learnerships, apprenticeships and shorter skills development programmes (DHET, 2013).

### **3.1.1 N-programmes**

Historically, the N or “Nated” programmes (hereafter N-programmes) were the standard vocational programmes that most students attended. The structure was such that students spent one trimester in college and two trimesters in the workplace for training. Over the years, the N-programmes were neglected and their curricula became outdated. According to the DHET (2013), students had trouble finding workplace opportunities and instead had to do one trimester after another in college. As a result, the government introduced a new vocational programme called National Curriculum Vocational (NCV) in 2007 with the intention to replace the N-programmes. However, due to certain problems of the NCV programmes (see section 3.1.2), the government stopped the intended phase out of the N-programmes in 2010 and both programmes now co-exist. (DHET, 2013)

N-programmes are structured in the following way: There are six N-programmes, N1-N3 programmes belong to upper secondary education and build the first part and N4-N6 programmes correspond to the postsecondary level of education and build the second part. Admission to N1 programmes requires the completion of grade nine (lower secondary education) and all following N-programmes require the completion of the prior N-programme. An exception is the N4-programme, which can also be started after the completion of a regular school grade 12 (upper secondary education). (DHET, 2011)

N-programmes are offered in three different fields: business studies, engineering and services. The duration of study depends on the respective field. In engineering, each level takes one trimester. In business studies and services, each level takes six months or a semester. Professional qualifications can be obtained in combination with work experience. A graduate who has accomplished a N2 certificate in engineering and who has evidence of 2 years work experience in the same field can apply to take a trade test to become an artisan. In order to receive the National Diploma, students need to finish the N-6 programme and complete a certain amount of work experience in their respective field. Students of business studies and services need 18 months of work experience, while students of engineering are required to have a work experience of two years. (DHET, 2011)

### **3.1.2 NCV programmes**

As mentioned before, the government introduced National Curriculum Vocational (NCV) programmes in 2007 with the intention to replace the N-programmes. The curriculum of NCV programmes includes both theory and practical learning.

The structure of NCV programmes is such that there are three levels: NCV 2, NCV 3 and NCV 4. Each level is a full qualification and takes one year to complete. There is no NCV 1 because

the NCV programmes are offered at levels 2, 3 and 4 of the National Qualification Framework (NQF) and thus they represent the respective level.

The curriculum of each NCV level consists of three fundamental subjects (a language, life orientation and mathematics or mathematical literacy), three mandatory vocational subjects in the particular field of study and one optional topic, which focuses on a specialization in a particular occupation (DHET, 2011, S. 24). The qualification intends to provide both theory and practical experience in a particular field. The practical part can take place either in a workplace or in workshops. Graduates of an NCV 4 programme receive a National Certificate and are eligible to study at any of the public universities or universities of technology. (DHET, 2011)

The reason why the NCV programmes have failed to replace the N-programmes lies mostly in the following shortcomings of NCV programmes as well as the fact that certain industries still rely on the established N-programmes. The main problem of NCV programmes is that many colleges have not implemented the practical components of the curriculum (workplace training is not mandatory in NCV programmes). Therefore, many students leave these programmes without practical skills. Another problem of NCV programmes is the confusing admission policy. Originally, it was supposed to be for young students completing grade nine. However, it now also allows students with higher schooling levels up to completion of NSC at grade 12. This makes it difficult for teachers and for students, as students have vastly different levels of prior education. (DHET, 2013)

### **3.1.3 Occupational qualifications**

Occupational qualifications were developed after the establishment of the NQF in the early 2000s. They are an assessment of highly job-specific skills, which made them appealing to employers. They require an assessment by a registered assessor (OECD, 2014). Private institutions in cooperation with employers are the main providers of occupational qualifications. The problem of occupational qualifications is that over the years, many thousands of qualifications were developed with little to no coordination. Therefore, quality assurance is largely non-existent. (DHET, 2013)

### **3.1.4 Technical schools**

Technical schools provide vocational-type programmes in four engineering fields from grade 8 that lead to a national senior certificate with a vocational element after graduation at grade 12 (OECD, 2014). Technical schools offer a very similar pathway as TVET colleges with their NCV engineering programmes. Both provide a vocational education aimed at students in upper secondary education (grades 10-12). Technical schools are under the control of the Department of Basic Education. (DHET, 2013)

### **3.1.5 Learnerships, Apprenticeships and Skills Programmes**

Learnerships are work-based learning programmes that lead to a nationally recognized qualification. They are directly related to a specific job, for example an electrician or construction worker. Learnerships are available for young adults who have left school or have been unemployed for some time. Depending on the job, they take one or several years to complete. Students in a learnership have to finish their classroom learning and do on-the-job training in a workplace. Therefore, students can finish a learnership in a shorter time if they have already concluded their classroom learning through recognition of prior learning. The downside of the structure with both classroom and workplace training is that unemployed people can only participate if they find an employer who provides the on-the-job training. SETAs facilitate and fund Learnership programmes, thus they are free for the participants. Participants do not receive a salary but a learner allowance, which covers the expenses during that time. (DHET, 2011)

Apprenticeships are very similar in structure, providing both on-the-job and off-the-job training, with the main difference that apprenticeships are mainly directed to existing employees that already have a job. (OECD, 2014)

Skills programmes are short courses of a wide range of topics that can be completed and certificated within a year. This makes them very appealing and thus skills programmes have the highest enrolment rates of all SETA programmes. (Higher Education and Training, 2011)

### **3.1.6 Outlook**

South Africa's current vocational system faces many challenges. One of the main problems is the historically grown confusing mix of overlapping systems and qualifications that makes it difficult for young adults to choose a clear path. For example, there are multiple artisan routes and therefore several ways to become an electrician. (OECD, 2014)

Nevertheless, there is a shortage of artisans in South Africa. The problem is the insufficient cooperation of education and the workplace. As described above, students often lack practical skills because there are not enough opportunities for workplace training. In its strategy outlook for 2030, the DHET (2013) has made it a priority to re-establish a good artisan training system that produces 30'000 artisans a year by 2030. It has therefore introduced the national artisan development strategy that has already achieved some promising results in the last years according to the DHET (2016). However, there is still a long way to go to reach the goal.

### **3.2 Professional Education and Training (PET; Post-Secondary Level)**

South Africa does not clearly differentiate between VET and PET. The Department of Higher Education and Training (DHET) is responsible for all vocational education and training institutes and programmes, which is referred to as the post-school system in South Africa. There are not that many vocational programmes at the post-secondary level, because the vocational education in South Africa focuses on giving the low educated or school leavers the necessary skills for employment and thus a way out of poverty (DHET, 2013). The postsecondary level vocational programmes that exist are mostly a continuation of upper secondary level programmes. As described in section 3.1, the N-programmes N4-N6 are at the post-secondary level. Other than that, higher certificates and diploma programmes are the only options for PET in South Africa.

Higher certificates are vocationally oriented qualification programmes, but with a strong academic focus. They are at the postsecondary level, which corresponds to the NQF Level 5. It is therefore suitable for students who have completed NCV 4 or N-3 programmes. Up to 2004, “technikons” used to offer a wide range of one year programmes that led to vocational higher certificates. In 2004, universities of technology replaced the “technikons” and since then the focus has shifted more towards diploma programmes. They take four years to complete, three years of theory with a final year in industry. (OECD, 2014)

Recently, some colleges have taken over the role of the “technikons” by offering higher certificate programmes in cooperation with universities. Although vocationally oriented, these programmes are closely linked to academics and thus favour a transition to higher education. This is an important aspect, which both the N and the NCV programmes fail to achieve. (DHET, 2013)

### **3.3 Regulatory and Institutional Framework of the VPET System**

#### **3.3.1 Central Elements of VPET Legislation**

The South African Constitution (1996) states that everyone has a right to a basic education and to further education, which the state must make progressively available and accessible. This requires the transformation and democratization of education such that there is no racism and no sexism. The information provided in the following, is based on UESCO-UNEVOC (2014).

The following legislations are especially important for the South African TVET legislation.

- Skills Development Act No. 97 (1998), amended in 2008, regulates skills development through apprenticeships and learnerships.



- Further Education and Training Act (1998), provides for the governance and funding of FET colleges and after their renaming for the TVET colleges.
- General and Further Education and Training Quality Assurance Act No. 58 (2001), establishes Umalusi as the quality council for FET (and later TVET) colleges.
- National Qualifications Framework (NQF) Act No. 67 and South African Qualifications Authority (SAQA) Act, provide the development and implementation of the NQF.

### **3.3.2 Key Actors**

#### **Government**

The Ministry of Education was established in 1994 as the main ministry to deal with education and training at all levels. In 2009, it was split into two departments: the Department of Basic Education (DBE) and the Department of Higher Education and Training (DHET). The DBE is responsible for everything regarding grades R to 12, while the DHET is responsible for higher education institutions, TVET colleges and adult learning centres. (International Bureau of Education, 2011)

Besides the national ministries, the provincial departments also play an important role in South Africa's education system. There are nine provincial departments, which finance and manage school institutes in their area. The Council of Education Ministers (CEM) consists of the Minister of Basic Education, the Minister Higher Education and Training and the members of the nine provincial areas to bring together the national and provincial protagonists. The CEM meets regularly to discuss national education policy and to coordinate aspects that are of mutual interest. (Government Communications, 2016b)

The three main institutions that control the quality of the vocational education system are the South African Qualifications Authority (SAQA), the Council for Quality Assurance in General and further Education and Training (Umalusi) and the Sector Education and Training Authorities (SETAs). The SAQA consists of members of national stakeholders in education and training and it oversees the development and implementation of the NQF (UNESCO-UNEVOC, 2014, S. 12). The Umalusi is responsible for the qualifications and learning programs and they certify certificates such as the NCV and NSC (ibid.). There are SETAs for 24 different economic sectors such as banking, agriculture and manufacturing (Seta's South Africa, 2017). They are responsible for the quality of the skills developed in workplace training and that the training meets the standards of the national framework (Government Communications, 2016b). The SETAs also manage the disbursement of training levies via a levy-grant system, which is described in chapter 3.4 (ibid.).

## **Representation and advisory bodies**

The National Skills Authority (NSA) is an advisory body to guide the Minister of Higher Education and Training on educational policy, strategy and implementation (Government Communications, 2016b). The Council on Higher Education (CHE) is a very similar advisory body as the NSA that also advises the Minister for Higher Education and Training on higher education policy issues. It also ensures the quality of higher education in South Africa through the Higher Education Quality Committee (UNESCO-UNEVOC, 2014).

All teachers and educators are required to register with the teachers union “South African Council for Educators” (SACE) when they start their employment. The SACE is a professional council that promotes the professional development of educators and sets ethical and professional standards for the profession. Besides the SACE, there are six other educator unions in South Africa, some on a national level and some on a regional level. (Government Communications, 2016a)

## **Education and training providers**

Vocational education in South Africa is provided in technical schools, TVET colleges and universities of technology as described in chapters 3.1 and 3.2. Adult learning centres often use the facilities of other schools and do not have their own premises. In case a work-based training is part of the education, it takes place either in workshops or on-the-job in private or public enterprises.

## **3.4 Educational Finance of the VPET System**

South Africa spent roughly 22 billion USD on education in 2014 (UNESCO, 2017). According to the World Bank (2017), this makes up for 19 percent of all government expenditures. This is slightly more than other sub-Saharan countries, which spent an average of 17 percent of their government expenditures on education (ibid.). South Africa had a government expenditure on education as percentage of GDP of 6 percent in 2014, which is more than the average among the OECD countries of 5.3 percent (UNESCO, 2017). It is also more than the average of the Sub-Saharan countries, which was 4.5 percent in 2013 (ibid.). This shows that South Africa puts a lot of effort into its education system.

The expenditures per student are still quite a bit lower compared to the OECD average. In 2013, South Africa spent 2'366 US\$ (compared to the OECD average of 8'477 US\$) for a primary-level student, 2'513 US\$ (compared to the OECD average of 9'811 US\$) for a secondary-level student and 5'607 US\$ (compared to the OECD average of 6'905 US\$) for a

post-secondary level student (OECD, 2016, p. 192). There is no data available for tertiary level students.

### **3.4.1 Educational finance of the VET system**

The administrative responsibility for funding TVET colleges was shifted from the provincial to the national level in 2012. Since then, the DHET is responsible for college funding throughout South Africa. Each school receives a certain amount that is determined by a funding weight based on enrolment rates and the kind of vocational programmes that the school offers. Overall, 80 percent of the funding for TVET colleges come from a national budget and the remaining 20 percent are collected from student fees (which are often covered by bursaries). (OECD, 2014)

The financing of the in-company training system is managed through a levy-grant system. The levy-grant system means that all employers whose gross wage bill exceeds 500'000 ZAR (47'000 USD) per annum must pay 1 percent to a skill development levy. From the money that is collected through SETAs (80 percent of the total sum), 50 percent is used for discretionary grants, 20 percent for mandatory grants and 10 percent for administration costs. The National Skills Fund uses the remaining 20 percent. The discretionary grant is spent on projects that address sectoral needs, which are important for South Africa's economy. The mandatory grant goes back to companies that provide a workplace skills plan and an annual training report that meet the standards dictated by SETAs. However, as the procedures are cumbersome, only about one third of eligible companies make use of it. (OECD, 2014)

According to the OECD (2014), the whole procedure of South Africa's levy-grant system is too complicated and needs to be reformed. Employers are reluctant to invest in cost-effective training because they fear that employees and other firms are the main profiteers of the training. Furthermore, the administrative costs are high and the fact that not even half of the employers make use of the grants shows that the system does not work as intended.

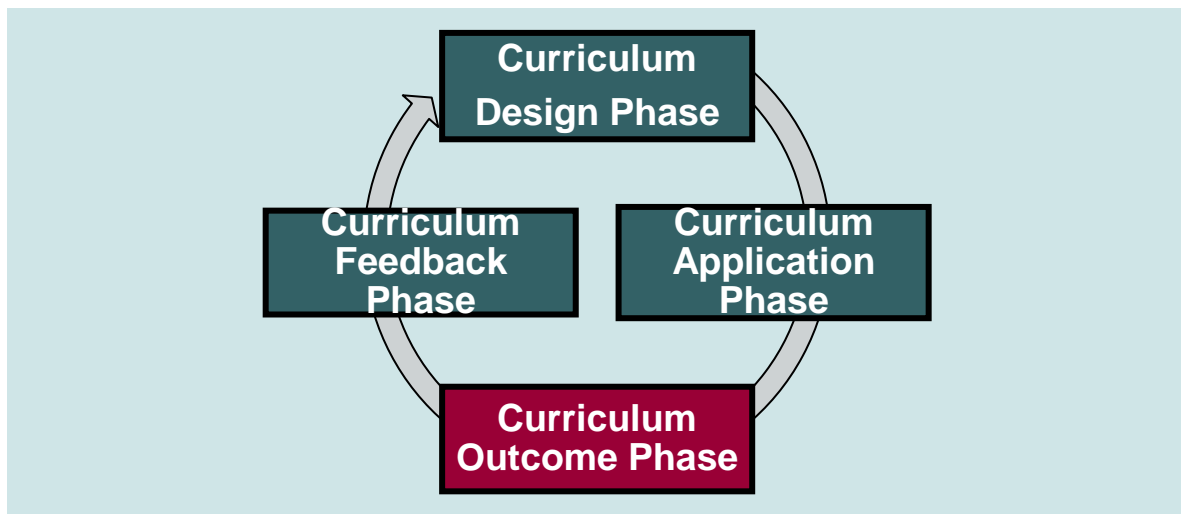
### **3.4.2 Educational finance of the PET system**

In South Africa, there is no clearly defined distinction between VET and PET and therefore it is impossible to determine how much is spent specifically for the PET system. The financing of the work-based training part is the same as described for the VET system in section 3.4.1. The N4-N6 programmes and the higher certificates are offered in TVET colleges together with VET programmes, therefore they are financed in the same way as described in section 3.4.1. Universities of technology are the only institutes that offer exclusively PET programmes. The DHET is responsible for the financing of the universities of technology.

### 3.5 Curriculum Development

The curriculum is a central element for the functioning of a VPET system by defining the framework and the (quality) standards for the education system. The development of a curriculum can be decomposed into a three-step process with a curriculum design, a curriculum application and a curriculum feedback phase. This theoretical concept is called the Curriculum Value Chain and is depicted in the picture below (CVC; for more details see (Bolli, et al., 2016)).

**Figure 4: Curriculum Value Chain (CVC)**



Source: (Bolli, et al., 2016).

In the curriculum design phase, VET curriculum content and qualification standards are decided upon by the relevant actors. Therefore, the discussion in the respective subchapter below focuses on the degree and the amount of stakeholder participation concerning curriculum design in South Africa. The curriculum application phase revolves around the implementation of the curriculum. Because learning environments differ heavily across countries—especially with respect to the prevalence of workplace learning—the curriculum application phase subchapter in this Factbook focuses on those learning environments. Specifically, it addresses where learning takes place and whether the curriculum dictates both school and workplace learning or only one of the two. Finally, curriculum outcomes can be collected and analysed in the curriculum feedback phase. This evaluation process is important as it may render a more refined curriculum design than was possible in the first place.

#### 3.5.1 Curriculum Design Phase

The design phase is crucial for the whole curriculum process. In order to ensure that the skills taught in the VPET programmes correspond to the needs of the labour market, experts from

companies should be involved in defining the qualification standards and learning contents of the curricula.

In South Africa, the National Qualification Framework (NQF) overarches the whole education and training system. The NQF (implemented in 1995) is a series of levels of learning achievements, ordered from one to ten. It starts with the NQF level one after the completion of lower secondary studies at grade 9, continues with levels two to four at the upper secondary level (including NCV 2-4 and N1-N3 programmes), and describes the different levels at higher education (higher certificate, bachelor, master) up to the doctoral degree, which is level 10. All qualifications offered in South Africa are supposed to be registered on the NQF (however, there are currently still many qualifications that are not). Furthermore, curricula and learning programmes (e.g. NCV and N-programmes) can be derived from the NQF. (DHET, 2013)

The SAQA (which oversees the NQF, see section 3.3.2) has identified twelve organizing fields within the NQF. These fields are the basis for the development of curricula, learning programmes and qualifications. The twelve fields are agriculture and nature conservation; culture and arts; business, commerce and management studies; communication studies and language; education, training and development; manufacturing, engineering and technology; human and social studies; law, military science and security; health sciences and social services; physical, mathematical, computer and life sciences; services; physical planning and construction. The development of qualifications, learning programmes and curricula then involves two processes. First, the development and registration of qualifications and second the development of curriculum frameworks, learning programmes and learning materials. (International Bureau of Education, 2011)

There are different actors involved in the curriculum design phase, which is not a clearly defined process in South Africa. First, the SAQA is responsible for the implementation of the NQF. Second, quality councils are responsible for setting standards and thus also for the curricula and their assessment (DHET, 2013). Among them, Umalusi is the most important one for the VET system. SETAs also play a role when it comes to on-the-job training. Finally, school institutes sometimes develop their curricula independently.

Overall, it can be stated that the curriculum development process is quite complicated in South Africa. There are even some contradicting statements from different sources. The OECD (2014) reports that most vocational qualifications are national and that training providers cannot build partnerships with local employers. On the other hand, the DHET (2013) states that school institutes mainly develop their curricula independently. There are no clear regulations on who should be involved in the curriculum development process, so schools often use ad hoc processes and groups to develop their curricula. Whether local employers

are involved in this process is unclear. The DHET (ibid.) argues that this approach makes sense for higher education institutes, but that most national qualifications could be improved by using a nationally developed curriculum.

### **3.5.2 Curriculum Application Phase**

The way in which a curriculum is implemented—especially with respect to learning environments—is important to achieve the intended learning outcome.

As described in chapter 3.1, there are many different VET pathways, all with different curricula. Most of them include both a school- and a work-based component, although the work-based part is not always mandatory (e.g. in NCV programmes). The curriculum applies to the school-based part. The author is unaware to what degree it also applies to the work-based part. Since the work-based parts of the different programmes differ quite a lot, there is a large variety of the content as well. It ranges from actual training in workshops and on the workplace (as intended in NCV programmes) to simply having work experience without much learning involved (which is the case in N-programmes, where students get a national degree after completion of the N-programmes and a certain amount of work experience in that field).

Due to the many different pathways, which make career choices difficult, career guidance is an important topic in South Africa. Many students have little knowledge about their options. The DHET (2013) affirms the importance of career guidance, which should not only be part of the school system, but also carry on and be an integral component of the VPET system. This requires a cooperation between the DBE and DHET, such that students can make informed choices regarding their studies and career opportunities. It is planned that trained career development officers will be placed in all TVET colleges. This will help students to make better choices and reduce dropouts because of wrongly chosen educational paths (OECD, 2014).

### **3.5.3 Curriculum Feedback Phase**

The curriculum feedback phase deals with the question, whether and how educational outcomes are analysed. Based on this, the curriculum could be re-worked and improved.

The state is responsible for assessing the quality of the different vocational education programs. The SAQA is responsible to assess and assure the quality of the different qualifications in the NQF. Quality councils (Umalusi for the VPET system) are responsible for the assessment of curricula and their improvement. The focus of these bodies lies on identifying institutions where learners constantly perform poorly. According to the DHET (2013), examinations and external assessments are the most reliable sources for quality assurance bodies. Quality councils then investigate the poorly performing institutions and try

to improve their performance. In extreme cases, institutions that continue to perform poorly can be closed down. (DHET, 2013)

### **3.6 Supplying Personnel for the VPET System (Teacher Education)**

The current qualification routes for becoming a vocational teacher in South Africa involve a diploma in vocational education, a national professional diploma, a national professional diploma in education and advanced certificates in education (OECD, 2014). As described in chapter 2.6, there are no specific colleges for teacher education anymore. Instead, the qualifications can be acquired in all kind of different institutions, from TVET colleges to universities. However, due to the severe teacher shortage (see below), many teachers are employed without having the necessary qualifications.

South Africa has a serious problem with providing both the quantity and quality of teachers that are required for a high-quality education system. There is a general teacher shortage, which is especially severe in TVET colleges. The average ratio of teachers and pupils in public TVET colleges is 1:47. To make matters worse, at least 25 percent of lecturers lack teaching qualifications and more than 50 percent have no industry experience according to the OECD (2014). Only a few lecturers have both industry experience and pedagogical qualifications. College lecturers in technical fields are often recruited from industry with technical qualifications and workplace experience, but little pedagogical training. Another group of lecturers have completed their N6 courses or have graduated from universities of technology, but lack workplace experience. (OECD, 2014)

The DHET is aware of these problems and proposed a new policy on professional qualifications for TVET teachers. The concept of the new policy is that vocational lecturers need to be competent in both the theoretical and practical aspects of the courses. It includes two levels. Initial qualifications (a diploma in vocational education and an advanced diploma in vocational teaching) are required to become a lecturer. Post-professional qualifications (advanced certificate in vocational teaching, advanced diploma in vocational education and postgraduate diploma in vocational education) are useful for those lecturers who want to deepen their knowledge and skills and possibly take on a leadership role in the vocational education environment. (OECD, 2014)

Although these proposed improvements certainly point towards the right direction, the OECD (2014) states that it will be tough to demand more skills and qualifications from teachers as long as the teacher shortage remains. According to the OECD (2014), another problem is that almost half of the teaching staff have short-term contracts and therefore little incentives to make long-term investments in skills and qualifications.

## **4. Major Reforms in the Past and Challenges for the Future**

### **4.1 Major reforms**

The most important reforms of the South African VPET system since the end of the apartheid regime were as follows:

- South Africa faced the huge challenge of a complete reform of its whole education system after the end of the apartheid in 1994. Eliminating all forms of discrimination and inequality (especially in races and genders) were and still are key priorities of the new education system. Although huge progress has been made, this process is still not finished yet. Most of the challenges mentioned in section 4.2 originate from the historical burden of the apartheid regime and its education system.
- There were two reforms of the most important providers of vocational education in recent years. In 2002, 152 technical colleges were merged into 50 multi-campus institutions, which were renamed further education and training (FET) colleges. In 2013, they were renamed once more as technical vocational education and training (TVET) colleges (DHET, 2013).
- The government introduced the NCV programmes in 2007 as the main VET pathway. As described in section 3.1.2, the NCV was initiated with the idea to replace the N1-N3 programmes. However, the government stopped the intended phase out of the N-programmes in 2010 and now the two programmes exist in parallel.
- In 2009, the newly created DHET took over the responsibility for the whole higher education and training system. This was an important step towards the integration of education and training. Before, the Ministry of Education had been responsible for the educational part, while the Ministry of Labour had been responsible for the training part.
- The Artisan Development Strategy is an ongoing reform initiated by the DHET with the goal to re-establish a good artisan training system. Traditionally, apprenticeships were the main pathway to become an artisan. However, the apprenticeship system has deteriorated and therefore lost its popularity since the mid-1980s. This resulted in a shortage of mid-level skilled artisans in the country. The target of the Artisan Development Strategy is to produce 30'000 well-educated artisans a year by 2030. An important step towards this goal is to establish better connections between education and on-the-job training. (DHET, 2013)
- The DHET's White Paper (2013) describes the vision of the DHET for the future of South African's vocational education system. There, some general goals are set that do not yet have specific reforms towards their implementation in mind. Among them



are steps towards a simpler, better-coordinated VET system as well as stronger relationships between education and the workplace. Furthermore, the access to vocational education and training needs to be expanded such that less youth end up outside of the schooling system. However, it is also mentioned that too many reforms can lead to confusion and possibly undermine the trust of employers towards new qualifications and that therefore reforms need to be used carefully.

## **4.2 Major challenges**

The major challenges for the South African vocational education system are as follows:

- South Africa faces a huge problem with young people that are neither formally employed nor in education and training (NEET). According to the OECD (2014), this affects about one third of those aged between 15 and 24 (3.4 million people).
- According to the DHET, both the quality and the quantity of VET is inadequate. Despite significant growth in the number of participants of TVET colleges, there are still not enough places for the many youth that seek education and training. The quality varies greatly in South Africa's educational institutes, but is too often of weak quality. (DHET, 2013)
- The teacher shortage described in section 3.6 is a severe problem that directly relates to the weak quality mentioned above. It is clear that the quality suffers with an average teacher, student ratio of 1:47 in TVET colleges. Consequently, teachers without the necessary qualifications are employed, which further weakens the quality. Improving both the teacher education and the number of teachers is necessary to improve the quality of VET.
- The main structural problem of South Africa's VET system is that it is too complicated. There are many programmes that are very similar and intended for the same people (e.g. the NCV and N1-N3 programmes), which makes it hard for students to choose a certain pathway. This is also problematic for employers, who are unsure about the skills of graduates of the different programmes, because there are just too many different qualification types. Furthermore, the recognition of prior learning is often problematic such that changing between programmes is difficult. In addition, the permeability of the system, i.e. the pathways from vocational to academic programmes, needs to be improved. (OECD, 2014)
- Finally, the link between schools and the labour market needs to be strengthened. This is important in order to make sure that the skills learned in VET programmes are useful for the labour market. The OECD (2014) proposes a cooperation of training providers from local corporations with school institutes in the process of the development of the

curriculum. Currently, many employers are hesitant to offer apprenticeships and on-the-job training opportunities because they are not convinced about their benefits and fear that employees and other firms are the main profiteers of the training. Therefore, the majority of students lack work experience at the end of their education. This mismatch of skills leads to a situation where many artisans do not find a job after graduation, even though there is a severe shortage of artisans in South Africa.

## References

- Bolli, T., Caves, K., Bürgi, J., Pusterla, F., Rageth, L., & Renold, U. (2016). *The Curriculum Value Chain. A Theoretical Framework for Analyzing and Managing Education and Training Systems*. Zurich: KOF Studies.
- Bureau of Democracy, Human Rights and Labor. (2015). *Country Reports on Human Rights Practices for 2015: South Africa*. U.S. Department of State. Retrieved from <https://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm#wrapper>
- CHE. (2014). *Government Gazette No. 918 No. 38116 - HIGHER EDUCATION QUALIFICATION SUB-FRAMEWORK (HEQSF)*. Pretoria: Council on Higher Education.
- CIA. (2017). *The World Factbook - South Africa*. Retrieved from Central Intelligence Agency: <https://www.cia.gov/library/publications/the-world-factbook/geos/sf.html>
- Data World Bank. (2017, June 20). *data.worldbank.org*. Retrieved from [data.worldbank.org](http://data.worldbank.org).
- DBE. (2011). *Report on the Annual National Assessments of 2011*. Pretoria: Department of Basic Education.
- DBE. (2015). *Action Plan to 2019 - Towards the Realisation of Schooling 2030*. Pretoria: Department of Basic Education.
- DBE; DHET. (2011). *Integrated Strategic Planning Framework for Teacher Education in South Africa*. Pretoria: Department of Basic Education; Department of Higher Education and Training.
- DHET. (2009). *Government Gazette Vol. 533 No. 32743 - MINIMUM ADMISSION REQUIREMENTS FOR HIGHER CERTIFICATE, DIPLOMA AND DEGREE PROGRAMMES REQUIRING A NATIONAL CERTIFICATE (VOCATIONAL) AT LEVEL 4 OF THE NATIONAL QUALIFICATIONS FRAMEWORK*. Pretoria: Department of Higher Education and Training. Retrieved from [http://www.dhet.gov.za/FET%20College%20Examination/Other%20TVET%20College%20Examination%20Documents%201/14NC\(V\)%20Min%20Req%20for%20HE%20Nov%202009.pdf](http://www.dhet.gov.za/FET%20College%20Examination/Other%20TVET%20College%20Examination%20Documents%201/14NC(V)%20Min%20Req%20for%20HE%20Nov%202009.pdf)
- DHET. (2011). *Further Education and Training - A guide to opportunities for further learning*. Pretoria: The Department of Higher Education and Training.

- DHET. (2012). *Green Paper for Post-School Education and Training*. Pretoria: Departement of Higher Education and Training.
- DHET. (2013). *White-Paper for Post-School Education and Training - Building and Expanded, Effectiv and Integrated Post-School System*. Pretoria: Departement of Higher Education and Training.
- DHET. (2015). *Gouvernement Gazette No. 38487 - Revised Policy on the Minimum Requirements for Teacher Education Qualifications*. Pretoria: Departement of Higher Education and Training.
- DHET. (2016, 8). *www.dhet.gov.za*. Retrieved from *www.dhet.gov.za*: <http://www.dhet.gov.za/SiteAssets/Latest%20News/August%202016/The%20National%20Artisan%20Development%20Strategy%20Consultative%20Roadshows-1.pdf>
- Dutta, S., Lanvin, B., & Wunsch-Vincent, S. (2016). *The Global Innovation Index 2016: Winning with Global Innovation*. Fontainebleau, Ithaca, and Geneva: Cornell University, INSEAD, and WIPO.
- Encyclopædia Britannica. (2017). *South Africa*. Retrieved from <https://www.britannica.com/place/South-Africa/Languages#toc260128>
- EP Nuffic. (2015). *Education system South Africa*. The Hague: Netherlands Universities Foundation for International Cooperation. Retrieved from <https://www.epnuffic.nl/en/publications/find-a-publication/education-system-south-africa.pdf>
- European Commission. (2010). *The Bruges Communiqué on Enhanced European Cooperation in Vocational Education and Training for the Period 2011-2020*. Brussels: European Commission. Retrieved from <http://ec.europa.eu/education/policy/vocational-policy/doc/br>
- Eurostat. (2017a). *Gross Value Added and Income by A\*10 Industry Breakdowns [nama\_10\_a10]*. Retrieved from [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nama\\_10\\_a10&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nama_10_a10&lang=en) [February 2, 2017]
- Eurostat. (2017b). *Employment by A\*10 Industry Breakdowns [nama\_10\_a10\_e]*. Retrieved from [http://appsso.eurostat.ec.europa.eu/nui/show.do?wai=true&dataset=nama\\_10\\_a10\\_e](http://appsso.eurostat.ec.europa.eu/nui/show.do?wai=true&dataset=nama_10_a10_e) [February 3, 2017]

- Eurostat. (2017c). *Population structure and ageing*. Retrieved from [http://ec.europa.eu/eurostat/statistics-explained/index.php/Population\\_structure\\_and\\_ageing](http://ec.europa.eu/eurostat/statistics-explained/index.php/Population_structure_and_ageing)
- Evans, M. K. (2017). *BlackPast.org*. Retrieved from Apartheid (1948-1994): <http://www.blackpast.org/gah/apartheid-1948-1994>
- Festus, Lyle; Kasongo, Atoko; Moses, Mariana; Yu, Derek. (2015). *The South African labour market, 1995-2013*. Economic Research Southern Africa (Ersa).
- Field, S., Musses, P., & Álvarez-Galván, J. L. (2014). *A Skills Beyond School Review of South Africa*. OECD Publishing. doi:<http://dx.doi.org/10.1787/9789264223776-en>
- Government Communications. (2016a). *South Africa Yearbook 2015/16*. Pretoria. Retrieved from [http://www.gcis.gov.za/sites/www.gcis.gov.za/files/docs/resourcecentre/yearbook/SA\\_YB1516.pdf](http://www.gcis.gov.za/sites/www.gcis.gov.za/files/docs/resourcecentre/yearbook/SA_YB1516.pdf)
- Government Communications. (2016b). *Pocket Guide to South Africa 2015/16*. Pretoria. Retrieved from <http://www.gcis.gov.za/sites/www.gcis.gov.za/files/docs/resourcecentre/pocketguide/PocketGuide15-16new.pdf>
- Higher Education and Training. (2011). *Statistics on Post-School Education and Training in South Africa*. Pretoria.
- ILOSTAT. (2017a). *Annual data: Employment by sex and economic activity*. Retrieved from [http://www.ilo.org/ilostat/faces/oracle/webcenter/portalapp/pagehierarchy/Page27.jspx?indicator=EMP\\_TEMP\\_SEX\\_ECO\\_NB&subject=EMP&datasetCode=A&collectionCode=YI&\\_adf.ctrl-state=4gusqssb9\\_62&\\_afLoop=240980623970599&\\_afWindowMode=0&\\_afWindowId=4gusqssb9\\_5](http://www.ilo.org/ilostat/faces/oracle/webcenter/portalapp/pagehierarchy/Page27.jspx?indicator=EMP_TEMP_SEX_ECO_NB&subject=EMP&datasetCode=A&collectionCode=YI&_adf.ctrl-state=4gusqssb9_62&_afLoop=240980623970599&_afWindowMode=0&_afWindowId=4gusqssb9_5)
- ILOSTAT. (2017b). *Annual Data - Trade union density rate*. Retrieved from [http://www.ilo.org/ilostat/faces/oracle/webcenter/portalapp/pagehierarchy/Page27.jspx?subject=ILR\\_TUMT\\_NOC\\_RT&datasetCode=A&collectionCode=ILR&\\_afLoop=62418204125706&\\_afWindowMode=0&\\_afWindowId=hwm7vxka\\_22#!%40%40%3Findicator%3DILR\\_TUMT\\_NO](http://www.ilo.org/ilostat/faces/oracle/webcenter/portalapp/pagehierarchy/Page27.jspx?subject=ILR_TUMT_NOC_RT&datasetCode=A&collectionCode=ILR&_afLoop=62418204125706&_afWindowMode=0&_afWindowId=hwm7vxka_22#!%40%40%3Findicator%3DILR_TUMT_NO)
- International Bureau of Education. (2011). *World Data on Education*. UNESCO United Nations Education, Scientific and Cultural Organization.

- KOF. (2017). *KOF Youth Labour Market Index (KOF YLMI)*. KOF Swiss Economic Institute, Swiss Federal Institute of Technology Zurich (ETHZ). Retrieved from KOF Youth Labour Market Index: <http://www.kof.ethz.ch/en/indicators/ylm-index/> (September 12, 2015).
- OECD. (2014). *A Skills beyond School Review of South Africa*. OECD Publishing.
- OECD. (2015a). *OECD Economic Surveys: South Africa*. Organisation for Economic Co-operation and Development (OECD). Retrieved from <http://www.oecd.org/eco/surveys/South-Africa-OECD-economic-survey-overview.pdf>
- OECD. (2015b). *OECD Employment Outlook 2015*. Paris: OECD Publishing. Retrieved from [http://dx.doi.org/10.1787/empl\\_outlook-2015-en](http://dx.doi.org/10.1787/empl_outlook-2015-en).
- OECD. (2015c). *Education at a glance*. Retrieved from Indicator A1 Tables: [http://www.oecd-ilibrary.org/education/education-at-a-glance-2015/indicator-a1-tables\\_eag-2015-table5-en](http://www.oecd-ilibrary.org/education/education-at-a-glance-2015/indicator-a1-tables_eag-2015-table5-en)
- OECD. (2016). *Education at a glance*. Retrieved from Indicator A1 Tables: [http://www.oecd-ilibrary.org/education/education-at-a-glance-2016/educational-attainment-of-25-64-year-olds-2015\\_eag-2016-table6-en](http://www.oecd-ilibrary.org/education/education-at-a-glance-2016/educational-attainment-of-25-64-year-olds-2015_eag-2016-table6-en)
- OECD. (2017a). *B1G: Gross Value Added at Basic Prices, Total Activity*. Retrieved from [http://stats.oecd.org/index.aspx?DatasetCode=SNA\\_TABLE1](http://stats.oecd.org/index.aspx?DatasetCode=SNA_TABLE1) [February 3, 2017]
- OECD. (2017b). *ETO: Total Employment, Domestic Concept*. Retrieved from [http://stats.oecd.org/index.aspx?DatasetCode=SNA\\_TABLE3](http://stats.oecd.org/index.aspx?DatasetCode=SNA_TABLE3)
- OECD. (2017c). *LFS by sex and age - indicators*. Retrieved from [https://stats.oecd.org/Index.aspx?DataSetCode=LFS\\_SEXAGE\\_I\\_R#](https://stats.oecd.org/Index.aspx?DataSetCode=LFS_SEXAGE_I_R#)
- OECD. (2017d). *Trade Union Density*. Retrieved from [https://stats.oecd.org/Index.aspx?DataSetCode=UN\\_DEN#](https://stats.oecd.org/Index.aspx?DataSetCode=UN_DEN#)
- OECD. (2017e). *OECD Employment Protection Database - Annual Time Series Data*. Retrieved from <http://www.oecd.org/employment/emp/oecdindicatorsofemploymentprotection.htm>
- Renold, U., Bolli, T., Egg, M. E., & Pusterla, F. (2014). *On the Multiple Dimensions of Youth Labour Markets - A Guide to the KOF Youth Labour Market Index*. Zurich: KOF Swiss Economic Institute.

- Republic of South Africa. (2015). *National Integrated Early Childhood Development Policy 2015*. Pretoria: Government Printers. Retrieved from [https://www.unicef.org/southafrica/SAF\\_resources\\_integratedecdpolicy.pdf](https://www.unicef.org/southafrica/SAF_resources_integratedecdpolicy.pdf)
- Seta's South Africa. (2017, July 11). *Seta South Africa*. Retrieved from Seta South Africa: <http://seta-southafrica.com/>
- STATS SA. (2012). *Census 2011 - A profile of education enrolment, attainment and progression in South Africa*. Pretoria: Statistics South Africa.
- STATS SA. (2016). *Education Series Volume III: Educational Enrolment and Achievement, 2016*. Pretoria: Statistics South Africa. Retrieved from <http://www.statssa.gov.za/publications/Report%2092-01-03/Report%2092-01-032016.pdf>
- STATS SA. (2017). *Gross domestic product - Fourth quarter 2016*. Pretoria: Statistics South Africa.
- The Economist Intelligence Unit. (2017). *Democracy Index 2016 - Revenge of the "deplorables"*.
- The Institute for Economics and Peace. (2016). *Global Peace Index 2016*. Retrieved from [http://economicsandpeace.org/wp-content/uploads/2016/06/GPI-2016-Report\\_2.pdf](http://economicsandpeace.org/wp-content/uploads/2016/06/GPI-2016-Report_2.pdf)
- The White House. (2015). *Building American Skills Through Community Colleges*. Retrieved from [www.whitehouse.gov/issues/education/higher-education/building-american-skills-through-community-colleges](http://www.whitehouse.gov/issues/education/higher-education/building-american-skills-through-community-colleges) (August 30, 2015).
- Transparency International. (2015). *People and Corruption: Africa Survey 2015*. Berlin: Transparency International.
- Transparency International. (2017). *Corruption Perceptions Index*. Berlin: Transparency International.
- UN. (2015). *World Population Prospects: The 2015 Revision*. United Nations, Department of Economic and Social Affairs, Population Division.
- UNESCO. (2010). *World Data on Education: VII Ed. 2010/11 - South Africa*. United Nations Educational, Scientific and Cultural Organisation (UNESCO). Retrieved from [http://www.ibe.unesco.org/fileadmin/user\\_upload/Publications/WDE/2010/pdf-versions/South\\_Africa.pdf](http://www.ibe.unesco.org/fileadmin/user_upload/Publications/WDE/2010/pdf-versions/South_Africa.pdf)

- UNESCO. (2017, June 20). *data.uis.unesco.org*. Retrieved from [data.uis.unesco.org](http://data.uis.unesco.org/): <http://data.uis.unesco.org/>
- UNESCO-UNEVOC. (2014). *World TVET Database - South Africa*. Bonn: United Nations Educational, Scientific and Cultural Organisation (UNESCO); International Centre for Technical and Vocational Education and Training (UNEVOC).
- WEF. (2017). *The Global Competitiveness Report 2015-2016: Full Data Edition*. Geneva: World Economic Forum.
- World Bank. (2016). *South Africa Economic Update: Promoting Faster Growth and Poverty Alleviation Through Competition*. The International Bank for Reconstruction and Development/THE WORLD BANK. Retrieved from <http://documents.worldbank.org/curated/en/917591468185330593/pdf/103057-WP-P148373-Box394849B-PUBLIC-SAEU8-for-web-0129e.pdf>
- World Bank. (2017a). *World Development Indicators*. Retrieved from GDP per capita (constant 2010 US\$): <http://databank.worldbank.org/data/reports.aspx?source=2&series=NY.GDP.PCAP.KD&country=#>
- World Bank. (2017b). *GDP growth (annual %)*. Retrieved from <http://databank.worldbank.org/data/reports.aspx?source=2&series=NY.GDP.PCAP.KD.ZG&country=#>
- World Bank. (2017c). *World Development Indicators*. Retrieved from GINI index (World Bank estimate): <http://databank.worldbank.org/data/reports.aspx?source=2&series=SI.POV.GINI&country=#>
- World Bank. (2017d). *Poverty gap at \$1.9 per day, World Development Indicators*. Retrieved from <http://databank.worldbank.org/data/reports.aspx?source=2&series=SI.POV.GAPS&country=#>
- World Bank. (2017e). *The Worldwide Governance Indicators, 2016 Update*. Retrieved from <http://info.worldbank.org/governance/wgi/index.aspx#home>
- World Bank. (2017f). *World Development Indicators*. Retrieved from Pupil-teacher ratio in primary education (headcount basis):



<http://databank.worldbank.org/data/reports.aspx?source=2&series=SE.PRM.ENRL.TC.ZS&country=#>