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# Introductory Chapter: Looking for the Way Forward in Eradicating Poverty and Inequality

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Gabriel Staicu

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## 1. Introduction

Poverty is the “*worst form of pollution*” said Indira Gandhi at the United Nation conference held in 1972 in Stockholm [1]. Her words shocked the audience to some extent, especially those from developed countries who were worried—and they still are—about the degradation of natural environment and global warming. But, looking back, Indira Gandhi was right. Firstly, the deterioration of living standards of a large percent of world population is the most urgent problem that needs to be solved. Poverty is nothing else than a “disease” of our society, a “pollution” of the social environment. Secondly, the research findings illustrate that degradation of natural environment, pollution, deforestation, and so on affects more the poor than the rich. Thirdly, deterioration of the equilibrium between natural, economic, and social environment deepens the gap between rich and poor and increases inequality. This multidimensional equilibrium is vital for individuals and nations to experience a sustainable economic development. Therefore, by analyzing the meanings of these simple (but complex) words of Indira Gandhi, both scholars and policy makers might be helped to understand that reducing inequality and alleviating poverty could be the best solution in reaching a sustainable development and, at the same time, environmental protection.

## 2. Shifting the Paradigm

But is the *one size fits all* strategy the best way to eradicate poverty? This question is extremely relevant for both scholars and practitioners since most of the aid programmes developed and implemented by international institutions such as World Bank or UN follow a holistic approach. Their recipe of fostering economic growth and eradicating poverty seems to be the same: what has proved successful in an Asian country should be successful in a sub-Saharan African country as well. If, accidentally, the programme’s key indicators are not achieved,

experts and specialists are asked to identify and include some additional conditionalities that enable aid to work. Considering the past experience that illustrates a relative failure of aid programmes, the goal of eradicating poverty can be achieved only by changing the set of means. For instance, smaller and dedicated programmes focused on a specific and accountable outcome could create more opportunities for the poor to get better living conditions (e.g., some UN agencies solved specific healthcare and nutrition problems in poor countries).

Moreover, poverty persists not only in the Third World and is *not* a macroeconomic variable. There is a plethora of empirical evidence that highlights, for instance, the differences between rural and urban poverty, especially children poverty, no matter how developed the country in which they live is. Therefore, policy makers should understand the unique and dynamic needs of children growing in different social context in order to design more adapted and targeted anti-poverty policies. On the other hand, scholars and researchers should continue their efforts to examine the nuanced differences between urban and rural poverty considering the social context. To best serve underprivileged urban and rural populations, we should focus more on their unique needs and on the institutional framework they live in rather than implementing holistic (and more costly) strategies at the international or national level. This shift of paradigm might be interpreted as *abandoning the forest for the trees*. But, following this metaphorical approach, only the trees are the ones that live in poverty. A poor forest (society) does not exist in the absence of poor trees (people). And the perpetuating and increasing poverty affects the social equilibrium in our society. From a theoretical point of view, the down-top strategies in eradicating poverty might work better than top-down and centrally planned ones.

### 3. Developments in conceptual framework

In the economic literature, poverty and inequality are frequently related. The conceptual distinction between poverty and inequality is clear: poverty is when people *do not have* very much and inequality is when some people *have more than* others. While poverty is a lack of an “attribute” in relation to a threshold (e.g., income lower than the poverty line), inequality is a condition experienced by a person who is perceiving that he does not equally benefit from the reference “attribute.” Official data illustrate recently that eight people have the same wealth as the half of mankind and more than 10% of world population live in extreme poverty [2]. Is therefore a relationship between inequality and poverty? What if inequality is one of the main determinants of the persistence of poverty in some countries? Why inequality is to some extent neglected by policy makers, while poverty is paying a particular attention?

The role that scholars and researchers have is extremely important in this regard. A deeper exploration and understanding of the nature, causes, and consequences of inequality are needed to find better answers to these questions. In the last decades, thanks to the work of Douglas North and other (new) institutional economists, the present theoretical analyses on poverty and inequality are built on a more sophisticated and complex methodology. The formal and informal sets of rules that prevail in a society influence the individual behavior and create



a pattern of social interactions. Thus, depending on the quality of institutional framework, the economic performance and the distribution of income differ from one society to another. This is the reason why some countries have escaped poverty trap and have experienced high economic growth rates, whereas others remain poor. This is why some countries have positive results in reducing inequalities, whereas others are confronting with larger inequality and social conflicts.

However, a taxonomy of the concept of inequality is needed. The research findings of this sub-field of economics emphasize a distinction between basal inequalities and secondary inequalities [3]. The former is “natural” and comes from unavoidable situation (e.g., parent/child, employer/employee). In this case, no public policy is required to reduce it. But the second ones are avoidable, and from the social perspective, it is desirable to be reduced or eliminated. The secondary inequalities come into play along with fragile institutional framework that produces “unnatural” distribution and redistribution structures of scarce resources of society. This is not only the case of centrally planned economies but also the case of authoritarian political regimes, weak democracies, or nonfunctional market economies. For instance, the connections between interest groups and public officials (that distort free market and fair competition) are able to impose rules of inclusion and/or exclusion to maintain and increase inequalities in their favor.

#### **4. Final remarks**

From this perspective, poverty persists because “secondary” inequality and social injustice persist. Indeed, further research on corruption, inequality, and poverty and the correlation among these phenomena are needed in order to find better answers to these important problems of our society.

But, if this conclusion proves to be correct, a general question remains open: as long as the public official benefit or are to some extent part of the interest groups within our modern society, will they adopt institutional reforms aimed to restrict secondary inequalities? Would they give up to their privileges and bail out the poor? If not, the multidimensional equilibrium that I mentioned in the beginning of this chapter will start to decline and we will have to face unpredictable and unaccountable consequences. But we have enough reasons to be optimistic at the dawn of neo-modern world. The openness to trade, the rapid spread of innovations, and the best-practice examples of government policies will demand a change in the political agenda.

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# Growing up in Rural vs. Urban Poverty: Contextual, Academic, and Cognitive Differences

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Michele Tine

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## Abstract

This chapter aims synthesize current literature and research from a variety of fields to highlight what we know about the (1) contextual, (2) academic, and (3) cognitive differences between children growing up in urban versus rural poverty. The goal is to understand the unique needs of children growing up in urban and rural poverty to, in turn, place us in a better position to effectively remediate through targeted interventions and policy change.

**Keywords:** poverty, education, cognitive development, children, rural, urban

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## 1. Introduction

More than 16 million of children in the United States live below the current federal poverty line [1]. A breadth of research has been dedicated to understanding how poverty affects these children, especially in terms of academic success and cognitive development. For example, research has consistently shown students from higher-income communities outperform those from lower-income communities across many academic domains, including reading, math, and science [2]. Moreover, the gaps in standardized test scores in many of these academic domains are reported to be the largest they have been in 50 years [3]. Income related differences are found on other measures of academic success show, as well. Those growing up in poverty have lower high school graduation rates, higher participation in special education, and greater grade retention than those living above the poverty line [4–6].

In an effort to understand what may underlie this income related differences, recent research has explored if domain general cognitive processes vary between those growing up below

and above the poverty line [7]. Results from this line of work suggest income level disparities exist in cognitive processing related to working memory, language, incidental memory, and inhibition, again with lower income students not performing as well as their higher income counterparts [7–11].

Importantly, the work exploring these academic and cognitive differences has been limited in an important way: ‘poverty’ samples have been drawn from almost exclusively from urban environments. Yet, poverty exists in both urban and rural contexts. The literature has not been upfront in addressing this distinction and has inadvertently generalized urban poverty findings to both urban and rural populations.

Even though far less is known about the academic and cognitive profiles of children growing up in rural poverty, the need to understand this populations needs is more important now than ever before. Trends show the number of children living in rural poverty is increasing at a faster rate than the number of children living in urban poverty [12, 13]. Currently one-fourth (25%) of children in rural areas live below the poverty line, compared to about one-fifth (21%) of children in urban areas [1]. Moreover, the 4% difference in the gap between these groups has grown significantly in the last decade; in 1998 it was only a 2% difference [1, 14]. When considering those children living just *above* the poverty line, the difference between the percentages of children living in urban vs. rural poverty is even larger. Approximately half of rural children live in families with incomes below 200% of the federal poverty line, compared with only 37% of urban children [15]. The persistence of poverty in rural counties is also higher than that of urban counties. The Economic Research Service of the United States Department of Agriculture defines “persistently poor counties” as those in which the poverty rate has exceeded 20% at every decennial census since 1970. Since 1970, 730 U.S. counties have experienced persistent child poverty and 82% of them are located in rural America [16]. This is of particular importance when considering how poverty affects cognitive processing and academic achievement, as research suggests that the longer the periods of childhood poverty, the greater the reductions in cognitive development [17], which is in turn associated with academic success [8].

## 2. Theoretical framework

This chapter benefits from the frameworks of three different, but complementary theories. First, the Family Stress Model is helpful when considering the challenges associated with growing up in any type of poverty, as it focuses the relationships and interactions between parents and children, how those relationships may be adversely affected by family financial difficulties, and may, in turn, hinder the development of children [18, 19]. Second, the Family Investment Model proposes that economic resources determine the extent to which families can provide learning materials at home, such as books and computers, as well as provide access to resources outside the home as children get older, such as sports activities and afterschool activities. According to the Family Investment Model, these things work together to impact the development of a child [20, 21]. Not surprisingly, the Family Stress Model and

Family Investment Model are often utilized when studying poverty. While both are useful, either fully or explicitly addresses the nuances between rural and urban poverty or highlights how such nuances may differentially impact development. For this reason, this chapter may be most closely aligned with Bronfenbrenner's Ecological Systems Theory, which posits that development is influenced by experiences arising from the iterative processes between children and the specific settings in which they grow up [22]. Certainly, rural and urban poverty are distinct specific settings and, in turn, may be associated with distinct patterns of development.

### **3. Contextual differences between rural and urban poverty**

All three of the aforementioned models emphasize how developmental context bears influence on children as they develop. In an effort to highlight how rural and urban poverty are distinct developmental contexts, this section reviews some of the known contextual differences between rural and urban poverty at the neighborhood, school, and home levels. At times when researchers have not made direct comparisons between rural poverty and urban poverty, we rely on more general comparisons of rural versus urban.

Before reviewing the differences between these different contexts, it is essential to note that the definition of "rural" is often debated and rarely agreed upon. According to the National Center for Education Statistics definition, there are three categorizations of rural: fringe, distant, and remote that are determined based on proximity to an urban area [23]. The determination of "rural" for an area is achieved based by a town's latitude and longitude, and thus distance from an urban center, along with population thresholds [1]. Despite this ambiguous definition of rural, Coladarci argues that a precise definition of rural is not what the research community is lacking, as much as clear contextual description detailing the specific rural context under study, as this will allow researchers and practitioners to determine for themselves whether or not two rural contexts are similar enough to generalize the results for quantitative studies [24]. Keeping that in mind, the following overview is not subdivided by rural category, but it is encouraged that readers appreciate that there are different types of rural context and locate the original sources to more specifically determine the rural context of any study mentioned before generalizing the findings to other rural contexts.

#### **3.1. Neighborhood level differences**

At the neighborhood level, research shows that those living in urban poverty often cluster in inner-city neighborhoods with substandard and crowded housing, high crime rates, excessive noise levels, and inadequate services [25]. Psychological disorders, divorce, and other social pathologies are higher among those living in low-income urban neighborhoods than rural ones [26, 27]. But, rural poverty brings a host of its own stressors. Rural poverty is associated with higher infant mortality, lower quality housing and health care, and fewer formal support services than urban poverty [16, 28, 29]. Also, rates of unemployment and underemployment are higher in low-income rural neighborhoods than in low-income urban ones [30], as are jobs

offering the opportunity for upward mobility [31]. And in direct contrast to the overcrowding and excessive noise levels of low-income city neighborhoods, individuals living in rural areas face great isolation—from people, technology, and institutions [5]. Importantly, research suggests this isolation often prevents the rural poor from utilizing social support networks [32, 33]. Indeed, rural families receive, give, and expect significantly less help from others in their “town” than do urban families [33]. This is relevant because social support is thought to buffer individuals from stress [34]. Such social support may protect those living in impoverished urban neighborhoods from some of the negative consequences of urban poverty.

### **3.2. School level differences**

#### *3.2.1. Class size*

One of the greatest advantages of low-income rural schools compared to low-income urban schools is the tendency for smaller classes in the former, a variable that has been linked to achievement. Specifically, when looking at pupil/teacher ratio, achievement is greater in smaller schools with smaller classes [35]. Research has investigated the mechanisms explaining why smaller classes are associated with academic gains [36]. First, teachers’ enthusiasm and satisfaction is often enhanced when there are fewer students in their class. This enthusiasm and satisfaction is often perceived by the students and, in turn, influences their motivation for learning [36]. Second, class size directly impacts teacher-student interactions, with smaller classes allowing for more individual attention and allowing for more thorough and continuous student evaluation [36]. Finally, from an administrative standpoint, smaller classes reduce teachers’ responsibilities for paperwork and record keeping, allowing them to allocate more of their time to instructionally relevant activities [36].

#### *3.2.2. Teachers*

However, there are also disadvantages associated with low-income rural schools. Rural schools in general have a particularly difficult time recruiting and retaining qualified teachers [37]. A portion of this may be due to salary and teaching conditions in these areas; suburban teachers are paid an average of \$7500 more than rural teachers per year and \$3700 more than urban teachers [37]. Furthermore, rural teachers are less likely to receive health insurance and other fringe benefits. Some of the pay discrepancy may be explained by rural teachers having lower overall levels of education than urban teachers; thirty-seven of rural K-12 teachers hold master’s degrees versus 44% of urban teachers and 47% of teachers in urban-fringed schools [37].

#### *3.2.3. Funding*

Low-income rural schools also wrestle with state funding formulas that can favor larger districts. In many states, the dependence on local property tax revenues to finance education fuels funding disparities between urban, suburban, and rural districts [38, 39]. In addition, numerous policies and programs include funding formulas that set a minimum number of

students as a prerequisite for funding, or tie such funding to growth in the student population [40]. Also, some formulas allocate funds on a per-pupil basis, meaning small districts and schools receive relatively small amounts of money [38].

### *3.2.4. Technology*

A lack of technology in rural areas is another often-cited concern among policy makers. However, research shows that the number of computers in low-income urban, suburban, and rural classrooms does not differ [41]. The software, technical support, and condition of the equipment does differ across context, but in a somewhat counterintuitive manner. The software, technical support and condition are more likely to be inadequate in urban schools than in suburban and/or rural schools [41]. Furthermore, educators in low-income urban schools are less likely than other educators to have used any type of technology recently in school [41].

## **3.3. Home level differences**

It has been suggested rural families may play a greater role in children's development than urban families because of the greater isolation of families in rural areas [42] and also because social networks in rural areas are more likely to be kin-based than those in urban areas [43]. In turn, rural children may have less access to influences outside the family. Unfortunately, there are some stressors associated with the home life of those living rural poverty.

### *3.3.1. Parental employment*

Rural parents work more hours and earn less than their urban counterparts [44], which may increase the stress on the families and lead to adverse consequences for families and children [45]. Moreover, trends show that among rural families there is an increase in non-standard work hours [44]. Importantly, these irregular work hours by mothers early in the child's life have been linked to poorer language and cognitive skills at 36 months of age. Further, rural families commute longer distances to work, school, and services, with only 40% of rural areas having access to public transportation [46]. These factors leave parents with fewer hours to devote to interacting with their children.

### *3.3.2. Parental education*

There are also differences in the parental education levels of rural and urban areas. Recent estimates found that approximately 27% of rural children were living with a parent without a high school education, compared to 21% in urban areas [2]. And only 21% of young adults in rural areas had a bachelor's degree, compared with 34% of young adults in urban areas [47]. Parental education is an important factor to consider when thinking about child development, as research shows it is associated with better language, cognitive and academic skills in children in preschool, elementary school, middle school, and high school [48–51]. Moreover, a welfare experiment to increase maternal education in poor families has established a causal link between maternal increases in education and children's academic school readiness [52].

### 3.3.3. *Family structure*

Family structure in rural areas seems to be changing. In the 1970s, approximately 77% of rural children lived in married-couple households compared to 72% of urban children. But in 2007, 66% of rural children compared to 70% of urban children lived in married couple families [14]. This decline in married-couple families in rural areas has had implications for child poverty because two-parent married couples have been shown to be less likely to live in poverty than other family structures. Although overall poverty rates declined for female-headed households after the new welfare reform in 1996, single rural mothers have continued to experience higher rates of poverty than similar urban mothers [53]. These higher rates of poverty by rural single mothers have existed despite the fact that these rural mothers have been working more than their urban counterparts, reflecting the lower education of rural mothers and the absence of high wage jobs in rural areas [53].

### 3.3.4. *Parenting practices*

Research investigating measurable parenting behaviors of rural versus urban parents has found that rural parents tend to be less emotionally supportive, more intrusive, and harsher than urban parents [54, 55]. There are also differences in how rural versus urban parents beliefs and behaviors about their children's academic achievement. First, compared to urban parents rural parents place less emphasis on their children's academic achievement [56, 57] and hold lower expectations for their children's educational attainment [58]. Rural parents invest less financially in educational materials and cultural experiences and invest less time in their children's academic experience than urban parents [59]. Urban and suburban parents also have more general knowledge about child development and childrearing than rural parents, which may be associated to overall differences in parental education levels, as noted earlier in the chapter [56, 60].

The aforementioned differences at the neighborhood, school, and home levels highlight how the life lived for a child in rural poverty is very different from the life lived for a child in urban poverty.

## 4. Academic differences between Rural and Urban poverty

There is little existing data that directly compares the academic achievement of children growing up in rural poverty compared with urban poverty, so we are left relying on the more general known academic differences of children growing up in rural versus urban areas who attend public schools. The differences outlined below can be used (1) as a guide for future researchers interested in examining if more exaggerated differences exist among low-income rural and urban populations and (2) to serve as an impetus for future intervention and curriculum development that is accurately based on local needs.

One way to measure academic achievement is to look at how students perform on recent National Assessment of Educational Progress (NAEP) exams. In general, public school students in rural areas outperform students in urban districts on these exams, though achievement in



both groups consistently falls below that of their suburban peers. The NAEP exams disparities between rural and urban students are present across grade levels and across subjects including reading, math and science [47].

More specifically, 34% of 4th grade students attending public schools scored at or above the proficient level on the NAEP reading assessment. Thirty-one percent of rural students achieved this level, compared to 24% of urban students. In 8th grade, 30% of rural students and 23% of urban students scored at or above the proficient level (29% nationwide). And in 12th grade, 33% of rural students and 30% of urban students scored at or above proficient (34% nationwide). However, this difference in 12th grade reading scores was not statistically significant due to large standard errors [47].

For math, a larger proportion of students living in rural areas achieved a score at or above the proficient level in 4th, 8th and 12th grade on the NAEP mathematics assessment. The percentage of 4th graders at this achievement level was 36% while that in urban areas was 29% (35% nationwide). In 8th grade, 29% of rural and 23% of urban students achieved this level, as compared with 29% nationwide. By 12th grade scores across both district types had fallen, with 21% of rural students and 18% of urban students scoring at or above the proficient level (21% nationwide) [47].

Finally, the NAEP science assessment shows similar results for rural to urban public achievement disparities. Thirty two percent of rural students and 19% of urban students achieved a score at or above the proficient level on the science assessment in 4th grade. This gap narrowed slightly in 8th grade with 30% of rural and 19% of urban students reaching this level of proficiency (27% nationwide). The percentage of students reaching the proficient level drops across geographic divisions by 12th grade, as 18% of rural students, 13% of urban students, and 17% of students nationwide achieving the proficiency [47].

An alternative measure of academic achievement is high school dropout rates. The nationwide public high school dropout rate for 16- to 24-year-olds in 2004 was 11%, but that decreased to 6.5% by 2014 [23]. The dropout rate was higher in cities (13%) than in rural areas (11%) and within both geographic categories, the dropout rate for students living below the poverty line was greater than for students living at or above the poverty line. Despite the overall greater dropout rates for urban students, the dropout rate for students living below the poverty line in rural areas (23%) was actually greater than that of students living below the poverty line in urban areas (18%) [47]. This is one of the only known statistics to show lower academic achievement among rural compared to urban students; it is also one of the only a few to directly compare students of rural poverty with students of urban poverty.

Two other studies that compare urban and rural poverty are state specific. For example, a study compared the percentage of students who reached a state-determined level of proficiency on a state created standardized test given to 10th grade students in Ohio living in urban and urban poverty [61]. Math achievement was nearly identical for the two groups; 80.6% of students in urban poverty districts were proficient in math and 80.2% of students in the rural poverty districts were proficient. Reading achievement was similar between the two groups, as well. Both low-income rural and urban districts had 90% at the proficient level for reading. Finally, there were no apparent difference in science achievement between the two

groups, with a 71.4% proficiency rate in the low-income rural districts and 71.7% proficiency rate in the low-income urban districts [61].

A comparable study looking at academic achievement differences between low-income urban and rural school districts in Tennessee found slightly different results [62]. Tennessee Comprehensive Assessment Program (TCAP) standardized testing results were analyzed and no significant difference was found between the math achievement of students of rural versus urban poverty, but a significant difference was found for language arts scores, with 75.9% of the disadvantaged urban students reaching a proficient level in reading compared to 82.7% of disadvantaged rural students [62].

## 5. Cognitive differences between rural and urban poverty

While overall academic performance between those growing up in rural and urban poverty does not seem to dramatically vary, research suggests there are notable differences in the underlying cognitive processing abilities of the two groups. The hypotheses that drove these studies were that the distinct developmental contexts of rural and urban poverty could have distinct influences on cognitive processes like working memory, as there is evidence that working memory is negatively impacted by chronic stress [17] and the chronic stresses associated with the two types of poverty are different, as reviewed earlier in this chapter.

Therefore, to determine if cognitive differences between the two groups exist, verbal and visuospatial working memory tasks were administered to sixth grade students living in low-income rural, low-income urban, high-income rural, and high-income urban developmental contexts [63]. Both low-income rural and low-income urban children showed working memory deficits compared to their high-income counterparts, but their deficits were indeed distinct from one another [63]. Low-income urban children exhibited symmetrical verbal and visuospatial working memory deficits compared to their high-income urban counterparts [63]. Meanwhile, low-income rural children exhibited asymmetrical deficits when compared to their high-income rural counterparts, with more extreme visuospatial working memory deficits than verbal working memory deficits [63]. These results suggest that different types of poverty are associated with different working memory abilities.

To determine if other cognitive processes varied between the groups, a follow-up study measured incidental memory, language, and inhibition among students from low-income rural, low-income urban, high-income rural, and high-income urban developmental contexts. Expected income-related differences were found on all three cognitive processing measures among the urban samples. That is, the low-income urban group scored significantly lower than the high-income urban group on the language, incidental memory, and inhibition tasks [64]. These results mirror the previous work that documents an income-processing gap in urban communities [7–11]. The income-processing gap was also present in the rural samples; the low-income rural group scored significantly lower on the language, incidental memory, and inhibition tasks compared to their high-income rural counterparts. Importantly, low-income rural students exhibited distinct patterns from low-income urban students. Specifically, the

low-income rural students had lower inhibition scores, showing again that the two types of poverty are associated with cognitive processing differences [63, 64].

The study also found that relationship *between* cognitive processing (i.e., language, incidental memory, and inhibition) and academic achievement varied for individuals who grew up in different developmental contexts, specifically for the students who grew up in rural poverty. In the other three contexts, each individual cognitive process itself accounted for a significant amount of the variance in academic achievement [64]. However, inhibition did not account for a significant portion of the variance in the low-income rural sample [64]. The results suggest that inhibition may be less related to academic performance for students from rural poverty compared to students growing up in other areas.

Policy makers and educators should take the aforementioned research into consideration when creating research-based interventions to target specific cognitive processes as a way of improving academic outcomes. To point, interventions and/or remediation plans should be tailored for students in rural poverty in ways that are slightly different for students from other contexts. For example, some interventions may want to focus on improving inhibition among low-income rural students, but for the sake of improving inhibition itself, not necessarily for the sake of improving academic achievement. With that said, it is important to understand that interventions aimed at improving cognitive processes have been ineffective in producing long-term and/or transferable gains thus far [65]. Thus, educators may want to focus instead on decreasing the inhibitory demands placed on students in rural poverty (without lowering the learning objectives) and/or capitalizing on other, stronger cognitive processes that are more related to their academic achievement in this population.

## 6. Conclusion

In summary, there is a growing population of children growing up in rural poverty, and the population has been grossly underrepresented in research. The work that does exist suggests that there are notable differences in contextual variables and cognitive processes associated with rural versus urban poverty, but fewer differences in academic achievement. Yet, extant literature is hardly robust. It is strongly encouraged that researchers continue to document the nuanced differences between urban and rural poverty, especially in the ways that the two developmental contexts affect children. To best serve underprivileged urban and rural populations, we must establish their unique needs. Once these needs are accurately established, we will be able to provide efficacious support for the two populations.

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# Inequality as Determinant of the Persistence of Poverty

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## Abstract

This chapter aims to establish the relationship between inequality and poverty to explain why poverty persists. For this purpose, four parts are developed. The first one illustrates data on inequality and poverty in the world. In the second one, the background of both problems is traced in order to conceptualize them and determine their relationship. In the third one, a simulation exercise is carried out to show the mentioned relationship; besides, correlations between corruption, inequality, and poverty are made for 18 countries around the world that bear witness to the link between these variables. Finally, it is pointed out that persistent poverty reduction will only succeed if the different types of inequalities are reduced or limited, since it is unacceptable that more than 10% of the inhabitants of the earth live in extreme poverty or that just eight people have the same wealth as half of mankind.

**Keywords:** poverty alleviation, income inequalities, basal inequalities, secondary inequalities, income distribution

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## 1. Introduction

Income inequality, as in other spheres, has been growing in the world. Therefore, answering questions such as why, what measures have been taken to attack it, or what could be done to reduce it could provide a way to allow humans to live in a more egalitarian world. In this sense, this paper tries to suggest an answer to the last question, proposing a maximum threshold of concentration of the income that has impact in the reduction of the poverty rates due to the close relation between inequality and poverty. To illustrate this, the paper develops four more sections, apart from Section 1. In Section 2, some stylized facts about inequality are shown. In Section 3, the relationship between poverty and inequality is established. In Section 4, a simulation exercise is performed. Finally, a conclusion is made that includes the main aspects of the chapter.

## 2. Stylized facts

OXFAM reports [1, 2] indicate that in 2016 only 8 men have the same wealth as 3.6 billion people, while in 2015 there were only 62 people, of whom 53 were men and 9 were women. However, in 2016 they are only men. This reveals, on the one hand, the surprising degree of concentration and, on the other, the degree of gender inequality.

According to Arriagada [3], in Latin America, women need to study, on average, 4 years more to get the same income as men in a similar occupation.<sup>1</sup> ECLAC [5] comments that even the educational levels of women are higher than those of men, both primary, secondary, and tertiary remain marked gender gaps. In addition, if the analysis includes ethnicity/race, inequality is aggravated in relation to access, permanence, and completion of studies, which is relevant for a person to enter and remain in the labor market.

In fact, according to OXFAM [1], since “the beginning of this century, the poorest half of the world’s population has only received 1% of the total increase in world wealth, while 50% of this “new wealth” has gone to the richest pockets that are just 1%.” This eloquent inequality is explained by several factors, among them are the following:

1. According to Piketty [6] due to unbalanced increase in most of the countries of the return on capital to work in favor of the former through the payment of interest and dividends.
2. The tax evasion of capital owners, along with tax incentives that governments to these taxpayers grant, contribute to the increasing of their profits.<sup>2</sup> According to OXFAM [1], there are 7.6 trillion dollars hidden in tax heavens, a figure higher than the gross domestic product (GDP) of the United Kingdom and Germany together.<sup>3</sup>
3. Due to the tax evasion, the governments depend heavily on indirect taxes that mostly affect the poorest sectors of the population reflecting in cuts in social spending (health, education, among others).
4. Practices such as the lobby<sup>4</sup> by some companies expel competitors and cause increase in prices.
5. The fragility of jobs achieved by people. In this regard, the International Labor Office [7] indicated that in 2014 there were more of 201 million unemployed people worldwide which represented an increase of more of 31 million people since the beginning of the economic crisis of 2008.

<sup>1</sup>Barquet [4] says that it is not enough for the women to increase their studies to get out of poverty.

<sup>2</sup>OXFAM [1] says that “the Billionaire Warren Buffett (...) pays less tax than (...) the cleaning person.”

<sup>3</sup>For the year 2015, according to World Bank figures, the GDP of both countries reached 6.2 trillion dollars. Retrieved from <http://datos.bancomundial.org/indicador/NY.GDP.MKTP.CD>.

<sup>4</sup>According to OXFAM [1], for 2014, “pharmaceutical companies spent more than US\$ 228 million for lobbying activities in Washington.”

6. Governments rule for elites reflecting in the manipulation of laws to the detriment of the rest of the population, eroding democratic governance, as the power of unions that softens the abuse of economic institutions.

Given these facts, Cañón [8] comments that some have criticized “that a more egalitarian distribution could slow down growth, due to the disincentives created by the tax and transfer system.” However, according to Ostry et al. [9] there is a strong evidence “that shows that low levels of inequality are positively correlated with higher and more sustained rates of economic growth and that redistribution generally has no negative impact on it.”

Another criticism expressed by Cañón [8], citing Robert Lucas who says that “concern for inequality is harmful [...] the potential to improve the lives of the poor through the distribution of current production is insignificant compared to the seemingly unlimited ability of the increased production.” OXFAM [1] says that those who “defend the *status quo* affirm that the concern for inequality is driven by ‘politics of envy,’ and they often mention the reduction in the number of people living in extreme poverty as proof that inequality is not such a serious problem.” Nonetheless, if inequality had not increased, 200 million more extreme poor would no longer be so by 2015 in the world. That is, instead of 700 they would have been 500 [10].

Consequently, poverty as well as inequality persists in the world. Karelis [11] indicates that “the US poverty rate has been essentially the same for forty years, despite a significant increase in GDP per capita.” This means that only economic growth, by itself, does not eliminate poverty. Hence, the Food and Agriculture Organization (FAO) [12] indicates that the *trickle-down effect* or pro-poor growth ceased to be a valid idea.

Narayan and Petesch [13], quoting Nolan and Erikson, comment that the latter considered the income mobility of the Swedes from 1990 to the end of the decade, and found that more than three-quarters of those with incomes less than 60% of the median, at the beginning of the decade, remained in that position at the end of this lapse. For the same country, the change in the income of people born between 1920 and 1939 was also analyzed by comparing their income in 1967 and 2000. The results showed that poverty persists, even though Sweden offers favorable conditions to its inhabitants.

Valletta [14] compared the persistence of poverty between the United States and Canada, finding that a child who had only one parent and thus had low levels of education would last 3.5 years in poverty in Canada and 7 years in United States. Instead, a child with parents who were working age and with secondary education would spend only half a year in poverty in Canada and a year in the United States.

A fact that worries Ayala et al. [15] is the increase in child poverty in rich countries in the past two decades; since the way children grow up has consequences not only in the short term but also on their development and future opportunities. In addition, Ayala and Sastre [16] state that the persistence of poverty in countries where it is expected to disappear such as the United States and some countries of the European Union, is comparable.

Other mobility studies, expressed in transition matrices, show that in South Africa and Chile, 32 and 59% of the population, respectively, remain in the poorest quintile for two consecutive

periods. In the same sense, in households of Ethiopia and Iran it was found that 12 and 63% of these households, respectively, remained in the same income or consumption quintile for two continuous periods [13].

Perlman [17] held a 25-year panel of three *favelas* in Rio de Janeiro. The results showed that the exit from poverty is easier for men who have small families, and who were raised in the *favelas* closest to the city. At the same time, this author in a qualitative work showed the importance of family ties, social networks, and psychological factors to escape from poverty.

It is possible to distinguish between monetary poverty and non-monetary poverty—in the latter are included other variables different from the income such as education, nutrition, health, among others—which give different transition matrices. In fact, Baulch and Masset [18] find that monetary poverty is less persistent than non-monetary poverty because, for example, malnutrition has long-term effects. This is due to the consumption/income variables that are measured as flows; on the other hand, education and health are measured as stock, which change more slowly than the flow variables.

Finally, what is clear throughout the studies on persistence of poverty is that increase in income and educational level help people get out of poverty faster, especially if the head of the family has education; instead, between the most representative risks for the household to stay in poverty are few workers in the household, the arrival of a new child, death, marital dissolution or adult children leaving the home [5]. Besides, data on poverty and inequality are often presented indistinctly and sometimes are treated as synonyms. However, both concepts are distinct. To see the difference, we go to the next part where the relationship between them is established.

### 3. Relationship between poverty and inequality

In principle, there is inequality because there is no equality, but not necessarily who is not in poverty lives in wealth. Thus, inequality and poverty are conceptually distinct. Inequality has simply been defined as lack of balance. But that “lack of” is about something. That something is an attribute, for example, inequality of income, opportunities, gender, rights, and so on. The attribute emphasizes the dimension/condition to be highlighted. Note that by highlighting, inherently, a comparison is made regarding the access or non-possession of that attribute around an analysis unit. Otherwise, one could not know if there is inequality. In short, inequality could be conceptualized as a condition experienced by somebody perceiving that he/she, unlike others, does not enjoy to access to the egalitarian use of the benefits derived from the reference attribute.

On the side of the conceptualization of poverty, it should be noted that there are countless definitions that for space reasons cannot be cited in this document.<sup>5</sup> However, in making a synthesis exercise, it can be stated that most authors, regardless of their line of thought, agree that poverty is a lack or insufficiency of an attribute in relation to a threshold [20], for example, income insufficiency in relation to a poverty line. Thus, if people are below the threshold, they will be considered poor with respect to the chosen attribute.

<sup>5</sup>Generally, conceptualizations on poverty lie between choosing a single reference aspect or many. For a review on these, see Casas [19].

It should be noted that the importance of the conceptualization of inequality and poverty is that it allows the measurement of both, which in turn is a key to identify those who require public assistance to mitigate the negative effects of both phenomena, but since when did they emerge on the planet? Punset [21] points out:

*20,000 years ago, humans invented agriculture. Until then we were hunters and gatherers, and almost all studies point out that these types of societies were [...] egalitarian. But when we invented agriculture, we invented surpluses, people who want to control those surpluses appeared, and so hierarchy and [...] poverty arose.*

From the above, it is clear, on the one hand, the element linked to the distribution of surplus, and on the other, the relationship between poverty and inequality. As for the former, the theoretical analysis of classical economists focused on the problem of value and distribution. They sought to determine the causes for the increase of wealth, as well as the laws that regulate its distribution among the different social classes. Therefore, it was essential for them to value the goods to know how much would there be to distribute [22].

In this regard, Smith [23] explains that the main cause of poverty is inequality; nevertheless, he justified it to guarantee stability and the capitalist social order. Also, he considered that the relation between poverty and inequality appears with the private property; consequently, the government protects the wealth of the rich, creating differences between individuals, making inequality<sup>6</sup> as the result of a social agreement between owners and political leaders where the interests of the former are legitimated.

By contrast, for Ricardo [24], poverty depends on inequality and population growth. For Ricardo, poverty reduces the welfare of society and persists for three reasons: (i) the dynamic relationship between demographic and economic forces does not favor the poor; (ii) the nature of the accumulation process perpetuates inequity; and (iii) institutions defend the interests of the rich.

In terms of the relationship between poverty and inequality, according to Sen [25], “analyze poverty as a problem of inequality or vice versa, would not do justice to any of the two concepts. It is clear that both concepts are related, but neither replaces the other.” Therefore, it can be inferred that inequality exists because there is private property or clearly established hierarchies. But there are areas where inequality is inevitable.

Cadenas [26], citing Giegel [27], expresses that a distinction between basal inequalities and secondary inequalities must be made. The former correspond to those situations that are unavoidable in society, for example, relationships: teacher/student, employer/employee, and parent/child, while the second ones are avoidable. The existence of basal inequalities has motivated the neglect of secondary because they make that inequality appears as a normal situation.

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<sup>6</sup>A common confusion is that equality is synonymous with equity. An example could eliminate the confusion. Let's suppose a partnership of two people. A wins 1000 and B, 5000. In that society, there will be equality if both pay 100 for taxes, since they pay exactly the same value. From this may appear value judgments, such as that is unfair, it is an unacceptable situation, among others. Placing the discussion in these terms, it is no longer talking about equality, but about equity, that is, the way things should be in a society without favoring some members at the expense of others.

However, it has nothing to do with normality, because in secondary inequalities come into play what Luhmann [28] called rules of convertibility that produce strong *distribution structures*, which refer to those connection capabilities that impose rules of inclusion and exclusion (e.g., lobby) to maintain these inequalities and favor certain members of society. When this convertibility happens, we talk about corruption.

But inequality, being corruption one of its most visible forms, is functional for the system, as it reveals stratification in economic classes [29]. Parsons [30] finds that stratification has manifestations at the individual and institutional levels. In the first one, six criteria stand out: kinship, qualities, achievements, possessions, authority, and power. In the second one, it is expressed in four institutions: economy, politics, law, and culture.

Thus, the use of these conditions individually generates status within society, materializing inequality especially at the institutional level in economic and political aspects, through payments in money to those who hold political power to influence procedures that allows the ruling class to maintain its position of dominance or inequality [26]. This is confirmed by Cortés et al. [31] stating that “social inequality is built through a complex process, which occurs at the discursive, normative, social and subjective levels of reality” in which “discriminatory practices determine hierarchies in social relations.”

In this sense, Bárcena and Prado [32] state that inequality is perceived as unjust, especially when its beneficiaries have been placed in that position through what has been called the “culture of privilege,” which according to ECLAC [5] “refers to a set of norms, values and institutional mechanisms through which social inequalities are legitimized and preserved.” The problem of inequality is that it can have consequences such as political and social violence [33]. However, when addressing equality or inequality, it should be specified, as Sen does [34], equality of what?

It is clear that inequality is a multidimensional phenomenon. In addition to income inequality, there are inequalities associated with political participation and with social, cultural, health, education, gender, ethnicity/race aspects, among others. In this regard, ECLAC [5] highlighted five structuring axes of inequality for Latin America. They are summarized in **Table 1**.

ECLAC [5] concludes that social inequality is conditioned by the productive structure. Thus, the design of policies aimed at reducing inequality in each of the axes must take into account the heterogeneous productive structure of each country. However, it is important to note that the labor market<sup>7</sup> is the bridge between the economic and the social. That is, access or real opportunities to find and/or remain in employment are decisive in mitigating the negative consequences of the indicated inequalities, which in turn are barriers to the eradication of poverty. In this line of thought, the United Nations comments that

<sup>7</sup>ECLAC [5] states that “unemployment is one of the main indicators of exclusion from the labor market [...] In general, in all regions of the world, it affects women and young people, it is also indicated that [...] it affects more the indigenous and afro-descendants.”

Axis	Key elements	It manifests itself in	It reproduces in areas such as
Socioeconomic stratum	Property, distribution of power, resources and productive assets.	Inequality of income.	Education, health, and labor market.
Gender	Sex (woman/man).	Gender inequality.	Income and work, education, social development, social and political participation, enjoyment of rights and autonomy to make decisions.
Ethnicity/race	White, black, indigenous.	Ethnic/racial inequality.	The ethnicity explains the inequality of income, work, social protection, education, health, housing and basic services, social participation, enjoyment of rights, and autonomy to make decisions.
Territory	Urban/rural cities and towns: center/periphery	Territorial inequality.	The territory of birth or residence establishes opportunities and socioeconomic conditions. It also influences political, economic, and social rights. Territorial inequalities explain migration.
Age	It distinguishes between Childhood	Intergenerational inequality.	In <b>childhood</b> risk dimensions such as health, nutrition, early stimulation, and education converge. The vulnerability of this stage is due to its high level of dependence on others.
	Youth		In <b>youth</b> , social inequalities may widen or be reduced if there is no public policy intervention, because aspects that mark adulthood are defined: completion of studies, work history, family formation.
	Adulthood		In <b>adulthood</b> , access to income and welfare depend mainly on the capacity of people to enter the labor market. In fact, the type of relationship has consequences for future well-being: if this is informal, the person will not be entitled to a taxable pension in his old age.
	Old age		In <b>old age</b> due to rising life expectancy of the population, it should ensure the inclusion of older people in all areas and open spaces to address the main risks of this stage: health and lower pension and retirement coverage.

Source: own construction based on ECLAC [5].

**Table 1.** Structuring axes of inequality.

*The facts show that, above a certain threshold, inequality impairs growth and poverty reduction, the quality of relations in the public and political spheres of life, and the sense of realization and self-esteem of people.<sup>8</sup>*

<sup>8</sup>Goal 10, of the 17 sustainable development goals proposed by the United Nations, is on inequality: "Reducing inequality in and between countries." Retrieved from <http://www.un.org/sustainabledevelopment/es/inequality/>. on January 10, 2017.



In addition, the United Nations in the first sustainable development objective raises “Put an end to poverty in all its forms and around the world.” And in turn, the goal 1.1 is “By 2030, eradication of extreme poverty for all people and worldwide.”<sup>9</sup> According to the data of the institution, there are in the world about 836 million people who remain in conditions of extreme poverty, that is to say 11.2% of the human beings of the planet lives with less than US\$ 1.25 per day.

The fact that more than 10% of the inhabitants of the earth live in extreme poverty is worrisome, since to continue considering that poverty is natural is an act of cynicism with those who live in this condition, because now there is enough wealth for all [35]. Karelis [11] indicates that the very idea that poverty is persistent is *per se* persistent. In addition, he goes to some quotes from the Bible<sup>10</sup> to show it seems that poverty is part of the natural order.

According to Sanchez et al. [36], the persistence of poverty refers to assessing the duration of the periods in which the individuals are in poverty situation. This requires a survey that classifies households/individuals who are poor *always*, *sometimes* or *never*. If a household/individual from one survey to another is *always* considered *poor*, it will be said that it/he is in chronic poverty, whereas if it/he is sometimes poor, it/he is in temporary poverty.<sup>11</sup>

Formally, the measurement of persistence of poverty resides in using logit or probit models, in order to calculate the probability of going out or falling into poverty from one period to another [13]. Another way of estimating it is to regress with real per capita household consumption based on other explanatory variables of the individual/household. In sum, these estimates assess whether a household/individual is below an established poverty line, both in the first survey and in the second. If in both surveys it/he is below the line, it/he persists in poverty.

However, Narayan and Petesch [13] point out that surveys are sometimes done for dissimilar populations and use different lines, so their results cannot be comparable and possibly contain measurement errors (construction of the income variable, representativeness of the sample, lack of response to questions, biases, and errors associated with sampling). Anyway, any regression of poverty persistence is affected by the criticism of Ravallion that reduces a continuous variable into a discrete one; therefore, there are results of two surveys conducted in different years.<sup>12</sup> Thus, his conclusions are not definitive about the persistence of poverty.

In that sense, it worth to ask who is affected to a greater extent by the persistence of poverty. This question involves analyzing the determinants of this, that is, going beyond regressing or estimating the probability that a household/individual has to fall or leave poverty. That is why this document distances itself from the measurement for two reasons. The first has

<sup>9</sup>Retrieved from <http://www.un.org/sustainabledevelopment/es/poverty/>. On January 10, 2017.

<sup>10</sup>For example: “The poor will never leave the earth” or when Jesus said: “The poor you will always have with you, but you will not always have me.”

<sup>11</sup>Jalan and Ravallion [37] presented the dichotomy between the concepts of chronic and transitory poverty. Thus, a temporarily poor person or household is someone who is not poor at all periods but only in some periods, whereas it will be considered in chronic poverty if it/he is poor at all periods.

<sup>12</sup>Income and expenditure surveys are those used to estimate poverty lines. But they are usually done every 10 or 12 years, since their cost is very high.



to do with some reasons that expose Stiglitz et al. [38], in the report of the Commission on the Measurement of Economic Performance and Social Progress,<sup>13</sup> regarding the message to improve the statistical system of countries on the measurement of population welfare, rather than in economic production. That is to say, there is a lack of appropriate data on welfare that allow a proper understanding of the phenomena of poverty and inequality. The second reason derives from the previous one, in the sense that before measuring, it is necessary to understand the relationship between inequality and poverty in order to make adequate use of the measuring instruments and thus to implement public policies aimed at reducing the adverse effects of these.

As the objective of the chapter is to establish the relationship between inequality and poverty, in order to observe why poverty persists, we must recognize the multidimensional nature of both phenomena. That is to say, they go beyond the one-dimensional evaluation of an attribute. In that sense, it is noted that both inequality and poverty refer to lack of an attribute. However, they differ in the access and comparison of the attribute.

In terms of access, inequality implies that the individual clearly recognizes whether or not he or she has the enjoyment of access to equal use of the benefits derived from the reference attribute. That is, when speaking of access a right to the individual is implicitly recognized. Hence, when he *does not perceive* this equal access, he feels dispossessed, decreased, at a disadvantage compared to others; because he feels he is worthy of receiving the same treatment or the same amount of the attribute, given that he thinks he is part of something that merits him to enjoy the access of the attribute in question. In the case of poverty, access is not taken into account; it is only evaluated if the lack or insufficiency that the person experiences with respect to the chosen attribute is below the *threshold* or minimum amount necessary for him to be considered as poor.

In relation to comparison, in inequality the person confronts others with the enjoyment of access to equal use of the reference attribute; on the other hand, in poverty it is made between the chosen magnitude that has the person of the attribute and the established threshold. In other words, inequality implies interpersonal comparison or between people regarding their access to the attribute. By contrast, poverty implies a single-person or intrapersonal comparison of the attribute against the threshold.

So inequality encompasses all the human beings of a society, while poverty individualizes. As the whole contains the individual, poverty is immersed in inequality. According to Coudouel et al. [39], poverty is an absolute measure of well-being, whereas inequality is a relative measure of well-being. Hence, inequality is a broader concept because it encompasses the entire population, along with the distribution of some attribute among the members of the population, and not just those below the threshold, which are the ones in the lower part of the distribution of the chosen attribute [40].

<sup>13</sup>The Stiglitz, Sen, and Fitoussi [38] report makes 12 recommendations aimed at “having a better view of available or potential indicators that might be useful for designing, implementing and evaluating policies to increase well-being and to promote social progress.”

Therefore, as inequality contains poverty, poverty persists because inequality exists. However, to be able to attack both phenomena it is necessary to identify the causes of each one. In this respect, OXFAM [2] highlights the following causes of inequality: (i) large companies are at the service of the richest; (ii) capitalism stifles workers as well as small producers; (iii) tax evasion and elusion; (iv) a short-term vision of capitalism where the maximization of welfare is prioritized; and (v) governments rule for elites.

Now, the persistence of poverty is explained by multiple causes such as insignificant provision of land, limited access to public goods and different forms of discrimination [12], inadequate schooling [41], precarious social protection system [42], poor institutional structure, lack of opportunities, income inequality [43], chronic unemployment, inadequate access to markets that have the most disadvantaged populations [44], poor health, domestic and external factors, corrupt governments and elites, even the regime implemented by a State influences the persistence of poverty [45].

Once the causes of inequality and poverty are identified, it is pertinent to identify their consequences. In that sense, the main consequence of inequality is poverty, which in turn has *consequences* such as hunger, uncertainty, impotence, suicide, lack of voice, social isolation, resistance, deprivation, corruption, abuses of dignity, humiliation, lack of access to basic infrastructure,<sup>14</sup> dependency, begging, shame, illiteracy, disease, crime, households disintegration,<sup>15</sup> breach of social norms, creating disorder, and violence both at household level and at the regional and national level [46].

Therefore, the overcoming of both issues is in the field of design and implementation of social policies. This implies taking into account aspects related to the degree of access and control over economic and social assets such as education, health, taxes [47], labor, land, productive resources, social and civic participation, security and justice [31]. Stiglitz et al. [38], at the same time, commented that human well-being is multidimensional, and at least seven dimensions should be guaranteed: (i) material conditions (income/consumption and wealth), (ii) health, (iii) education, (iv) personal activities (work), (v) political participation, (vi) social relations, (vii) environment, and (viii) economic and physical insecurity.

Nevertheless, the implementation of these policies may find obstacles and put in tension certain hegemonic actors and blocks within a society, since the policies touch social and political interests, which can cause that what is socially desirable does not materialize in certain political regimes. Narayan and Petesch [13] point out that a liberal regime (which gives the State a minimum welfare role) is associated with high rates of persistent poverty. On the other hand, a social-democratic regime (which assigns the State an important redistributive role) is associated with higher rates of escape from poverty.

Cañón [8] indicates that consolidated welfare States “reduce inequality. Proof of this is that when they began to fall back redistributive consequences were clearly adverse.” Similarly, Atkinson [48] states that social protection schemes appeared to protect people from the

<sup>14</sup>Such as, transport, streets, drinking water.

<sup>15</sup>This happens when women become the breadwinner of the family, which implies a redistribution of power within the household.

risks of precarious employment, and preserve social and political stability. However, he warns that currently these schemes are considered adverse to economic goals rather than complementary.

Then, poverty and inequality are connected by multiple aspects. However, there is a preponderant: the ability of people to enter the labor market, because this is a bridge between the economic and the social, since the absence of employment is decisive for fall and/or remain in poverty [31]. Recently, the World Economic Forum (WEF) [49] highlighted two of the risks that people face: unemployment and precarious employment. This is explained because people receive from employment the income to purchase the goods and services to meet their needs.

Consequently, people flee to both inequality and poverty. However, they support the first one more easily than the second one because poverty touches them more in their being due to its one-person character, unlike the inequality that exists by hierarchy between people. This happens because in the course of mankind, it has been obscured human being right to access to live better and he has been forced to accept living in mere subsistence conditions.

We must remember that equality has to do with the enjoyment of access to equal use of the attribute (or right), but as in the case of poverty there is no right, the human being that lives in it becomes accustomed, unwittingly, to live without such a right. That is why he does not see relevant to defend his right to live in a more egalitarian society, which would lead to reduce his poverty. So, there is a kind of submissive acceptance and tolerance of inequality that, despite supporting it, unknowingly, he sinks more in this poverty.

A fact that diverts attention from what has been commenting is temporary declines in poverty rates due to improvements in economic growth. In this regard, ECLAC [5] comments that "while economic growth is essential factor for poverty reduction, inequality can significantly limit this process (...) there is evidence that growth is less effective in achieving this reduction in countries with high levels of inequality and the reduction rate tends to be higher in more egalitarian countries."

Accordingly, it is evident that inequality and poverty are related sometimes stronger and others weaker. There will be a strong relationship when both the same attributes are analyzed, for example, the income. Instead, there will be a weak relationship when different attributes are analyzed, for example, in poverty the income is evaluated while in inequality the gender. In this case, it could be explained, weakly, that there is poverty, in part, by the existence of gender inequality, and it is strongly explained because besides gender inequality, there is also income inequality.

Anyway, in any case (strong or weak) inequality and poverty are related. However, if we want to succeed in reducing poverty persistently it should be a *sine qua non* condition: *before attacking poverty measures must be taken, in a strong and weak sense, leading to reduce or limit the different types of inequalities*. That is to say, it is not enough only to attack strongly on the direct attribute but also on the indirect. Even so although inequality is attacked only in a strong sense, it would have a significant impact on poverty. This is evidenced in the following section.

## 4. Simulation

This section shows a simulation exercise conducted in Excel, from the calculation of the Gini coefficient<sup>16</sup> and arbitrary values of poverty lines (PLs)<sup>17</sup> to observe the strong relationship between inequality and poverty. That is, when considering both the same attribute is taken into account, which in this case is the income. After simulating, some correlations between corruption, inequality, and poverty are shown for 18 countries worldwide in order to demonstrate that to greater corruption more inequality.

In that vein, the simulation involved a partnership with 10 individuals and each of them was associated with a random income, with the random function of Excel, ranging from 100 to 10,000. With random income, Gini coefficient was calculated using the following equation:

$$G = \left| 1 - \sum_{k=1}^{n-1} (X_{k+1} - X_k)(Y_{k+1} - Y_k) \right| \quad (1)$$

where G is the Gini coefficient, x is the cumulative proportion of variable population, and y is the cumulative proportion of variable income. It is important to clarify three aspects of the coefficient calculation: (i) the absolute value is used; (ii) restricted value from 0 to 1; and (iii) it is obtained from the quotient of two areas, in which the Lorenz curve is key.<sup>18</sup>

Then, five poverty line values (thresholds) were placed, which correspond to the entry of the first quantile, the first quartile, the median, the average, and the income belonging to 60% of the distribution. When the simulation exercise was performed, a Gini of 0.45 was obtained, which is the result of the data presented in **Table 2**.

In calculating the poverty incidence rate in each of the five lines, 10, 20, 50, 60, and 50% were obtained, respectively. Then and in order to check the strong relationship between inequality and poverty, a proactive exercise was made aimed to use a policy of income redistribution of those individuals who concentrate more than 15% and it could be equally distributed among those that concentrate less than 5%. In other words, the proposal aims to place a maximum threshold of income concentration, as it is done with the PL.

A marginal analysis of the variation of this threshold was made to observe the importance of the proposal. It began imposing a threshold of 19%, then 18%, and so on up to 14% because

<sup>16</sup>It measures the surface area between the Lorenz curve and a hypothetical absolute equity line, expressed as a percentage of the maximum surface area below the line. The coefficient is a number that goes from 0 and 1, where 0 indicates perfect equality and 1 means perfect inequality. We can also speak of the Gini index, when the coefficient is multiplied by 100.

<sup>17</sup>This method has been the most used to make quantitative evaluations on the poverty in the world. Of this method, there are three modifications: subjective PL, relative PL, and absolute PL. Absolute PL is more widely used in developing countries, with the exception of the United States. By contrast, developed countries use the relative PL. This difference is because the developed ones want to assure to their inhabitants a relatively high average well-being; on the contrary, underdeveloped countries tend to reach basic living standards. In any modification of the line, this method classifies a household/individual as poor if his income/expenditure is less than the value of a given PL (or threshold).

<sup>18</sup>The details of calculating Gini coefficient are beyond the scope of this paper. It is suggested to see Medina [50].

Person	Income (Y)	% of income (Y)	Population proportion (X, %)
A	170	0.4	10
B	368	0.9	10
C	1660	4.2	10
D	1793	4.5	10
E	2191	5.5	10
F	3060	7.7	10
G	5206	13.2	10
H	7620	19.3	10
I	8075	20.4	10
J	9419	23.8	10
Total	39,562	100	100

Source: own calculations.

**Table 2.** Distribution of random income.

as seen in **Table 2**, people H, I, and J concentrate 19.3, 20.4, and 23.8% of income, respectively. The results of marginal analysis are shown in **Table 3**. This has eight columns from the second to the sixth; the percentage results of poverty were placed. In the seventh column, Gini coefficient obtained for each item appears. In the eighth one is the percentage change between the Gini of calculated item and the initial situation.

It is important to note that in the initial situation in the five lines, at least a percentage of poverty is recorded. However, when a threshold of 19% is imposed, it begins to see the decline in the PL whose threshold corresponds to the first quantile. Likewise, when the concentration threshold is 18%, there would be no poverty to PL corresponds to income in the first quartile. As concentration threshold decreases, relative poverty reduces in respect of raised PL. However, we observe that from the concentration threshold of 16–14%, variation in poverty rates was zero.

This could be some leeway for the State, which could place the intermediate percentage (15%). By way of example and in order to make the proposal clearer, if the State imposes this threshold it should draw 4.26, 5.41, and 8.81% of income from H, I, and J people, respectively, as they concentrate more than 15%. The surplus would give an amount of 7311.1 to be transferred and distributed, equally, among people who account less than 5% of income. In this case, persons A–D would deserve the transfer. Therefore, 7311.1 should be divided between 4 and adding it to the initial entry of these people. By doing this, society income would be as shown in **Table 4**.

Likewise, it can be seen in **Figure 1** that imposing a maximum threshold of concentration income, in addition to having a favorable impact on the decline in poverty, also affects inequality in society. Obviously, there are areas for adjustment such as transfers, instead

Item	PL (20%) income (%)	PL (25%) income (%)	Medium PL (%)	Media PL (%)	PL (60%) income (%)	Gini	Gini Δ%
Initial situation	10	20	50	60	50	0.4502	
Maximum concentration threshold (19%)	0	20	50	60	50	0.3568	-20.73
Maximum concentration threshold (18%)	0	0	40	60	50	0.3178	-29.40
Maximum threshold concentration (17%)	0	0	30	60	50	0.2788	-38.06
Maximum concentration threshold (16%)	0	0	30	60	30	0.2398	-46.72
Maximum concentration threshold (15%)	0	0	30	60	30	0.2008	-55.39
Maximum concentration threshold (14%)	0	0	30	60	30	0.1618	-64.05

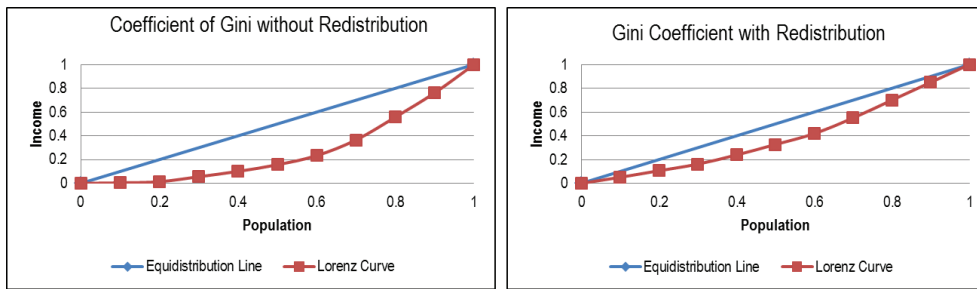
Source: own calculations.

**Table 3.** Gini and poverty from restricting the concentration threshold.

Person	Income (Y)	% of income (Y)	Proportion of population (X, %)
A	1997.78	5.0	10
B	2195.78	5.6	10
C	3487.78	8.8	10
D	3620.78	9.2	10
E	2191.00	5.5	10
F	3060.00	7.7	10
G	5206.00	13.2	10
H	5934.30	15.0	10
I	5934.30	15.0	10
J	5934.30	15.0	10
<b>Total</b>	<b>39,562</b>	<b>100</b>	<b>100</b>

Source: own calculations.

**Table 4.** Distribution of income obtained after redistribution.



**Figure 1.** Gini coefficient with and without redistribution. Source: own construction.

of being direct could be indirect through the promotion of public goods (education, health, infrastructure, among others) aimed at providing people with higher levels of welfare instead of basic living standards.

Finally and in order to compare the robustness of the proposal, data related to corruption, inequality, and poverty were sought. So if the proposal is unlikely to be valid, there must be correlation between these variables. Particularly, we went to the corruption perception index (CPI) of Transparency International, as a proxy variable that could reveal the extent of equal access against an established attribute and thus to observe the relationship with income inequality, collected through the Gini coefficient. Furthermore, it took into account the incidence of national poverty rate to see the relationship between the Gini and poverty in 18 countries worldwide.

The countries were selected according to three criteria. The first wanted to collect at least one country from each continent. The second sought to distinguish between low-income countries, lower middle, upper middle, and high (according to the World Bank classification). The third chose countries with high levels of corruption, media, and low by the CPI. The selected countries are shown in **Table 5**.

It is pertinent to indicate that the CPI indicates the degree of corruption in the public sector in 168 countries, according to the perception of businessmen and analysts of the country. The score ranges from 0 (highly corrupt) to 100 (perceived lack of corruption). Habitually, the least corrupt countries are characterized by high levels of press freedom, clarity about where the money comes from and how it is spent, and a judicial branch that makes no distinction between rich and poor. Instead, the most corrupt countries are characterized by fragile institutions, media without independence, poor governance, conflicts, and wars.

In **Figure 2**, the correlation between the CPI and the Gini is shown. Looking at the trend line, it is noted that increases in the perception of corruption are associated with a higher concentration of income. Therefore, both variables are related, which should lead to take measures to restrict the degree of income concentration, as it is proposed with the threshold previously discussed.

When performing the correlation between the Gini and the rate of incidence of national poverty, the difficulty of not finding poverty data for Haiti, Zambia, China, The United States,

Continent	Country	Income
Africa	Zambia	Low middle
America	Argentina	High middle
America	Bolivia	Low middle
America	Brazil	High middle
America	Colombia	Low middle
America	Haiti	Low
America	Honduras	Low middle
America	Mexico	High middle
America	United States	High
Asia	China	High middle
Asia	Israel	High
Europe	Finland	High
Europe	France	High
Europe	Germany	High
Europe	United Kingdom	High
Europe	Romania	High middle
Europe	Russia	High middle
Oceania	Australia	High

**Source:** own construction.

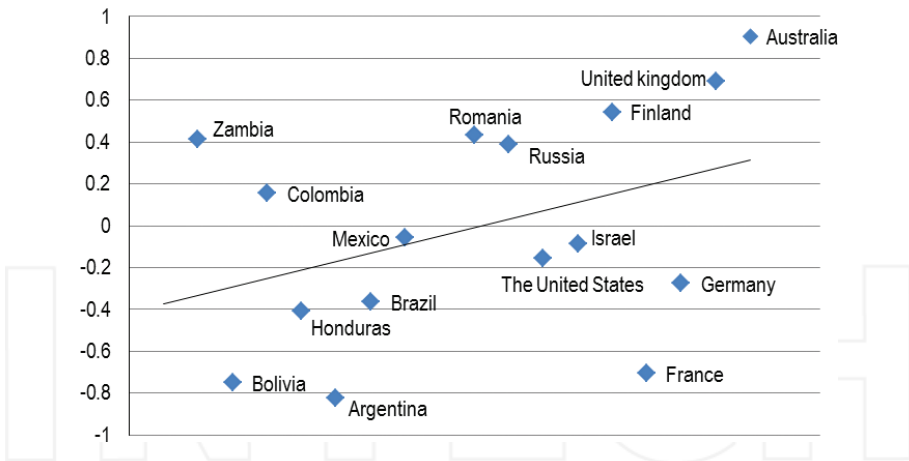
**Table 5.** Selected countries.

Israel, Finland, France, Germany, United Kingdom, and Australia was reported. With other countries, the correlation was conducted and a high degree of negative correlation between the two variables was found, which means that declines in the Gini are reflected in declines in poverty (see **Figure 3**).

Unfortunately, data on inequality and poverty are poor. Hence, the relevance of what Stiglitz et al. [38] with respect to improving statistical information on welfare indicators express because the State does not keep on the agenda to which the trail is not followed. Anyway, in **Figure 4** the average of the variables CPI, poverty and Gini is shown for the period 2002–2014.

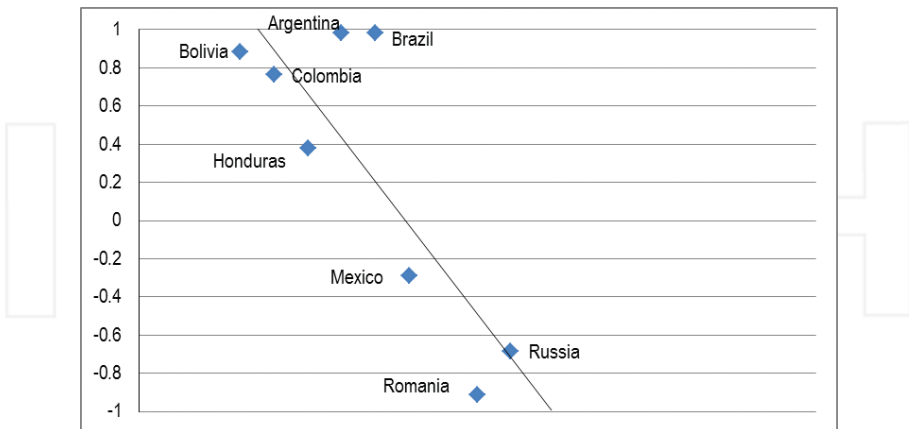
In this chart, Haiti was placed at the bottom because the only year for which data are available, it presented the highest Gini coefficient, then followed by Honduras up to Finland that has the lowest Gini of the selected countries. It is worth noting that Haiti is the most unequal country in the sample and, simultaneously, the most corrupt; instead, Finland is the most equitable and least corrupt country.



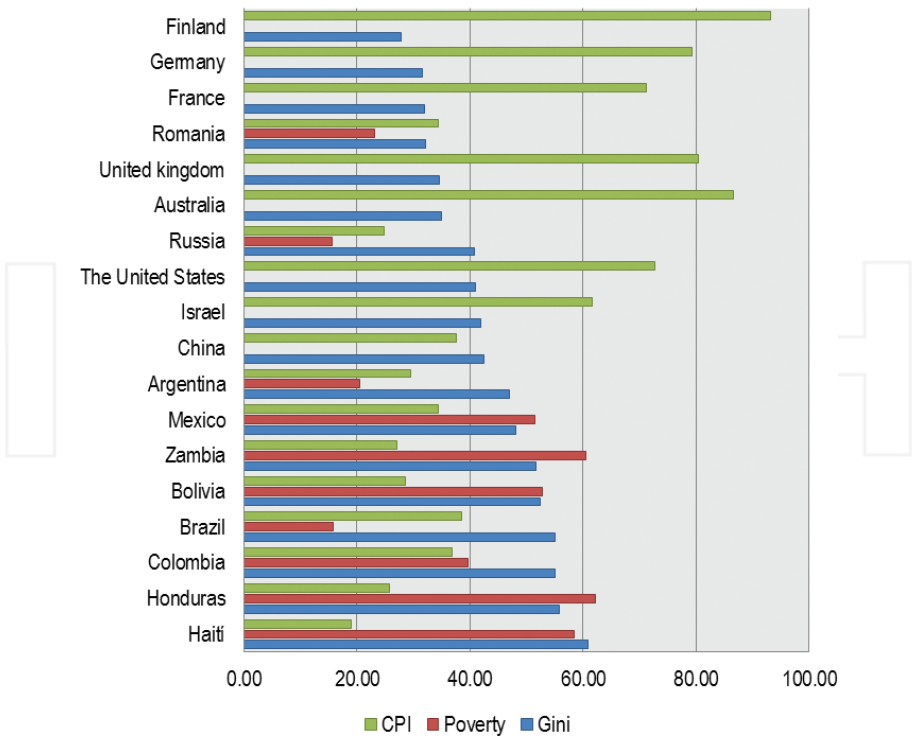


**Figure 2.** Correlation between the CPI and the Gini (2002–2014). Note 1: World Bank data can be found in the link: <http://databank.bancomundial.org/data/reports.aspx?source=base-de-datos-sobre-pobreza-y-desigualdad>. However, for Haiti and China no Gini data. Note 2: CPI data for each year were retrieved from: <http://transparencia.org.es/>. Source: own construction with data from databases indicated.

Finally, these calculations evidence the relationship between inequality and poverty, and they are an important indication that explains why poverty persists despite these limitations; because if it cannot establish a linear relationship between the perception of corruption, poverty, and income distribution, as measured by the mentioned indicators, it follows that countries with high levels of corruption are characterized by a very unequal income distribution, which affects the persistence of poverty, and vice versa.



**Figure 3.** Correlation between Gini and Poverty (2002–2014). Source: own construction with World Bank and Transparency International data.



**Figure 4.** Average CPI, poverty, and Gini of the selected countries (2002–2014). Source: data construction with the World Bank and Transparency International data.

## 5. Conclusions

This chapter showed that inequality and poverty are related because both refer to the lack of an attribute, but differ in terms of access and comparison thereof. This difference allows understanding why people, even if they dislike inequality and poverty, more easily support the first than the second. This is because people have not recognized that equality means the right to enjoy access to the use of the attribute, but as in poverty there is an absence of the right, they do not see relevant defend it, in spite of the fact that in supporting inequality poverty persists.

It was also indicated that inequality was generated from the hierarchy and the establishing of differences that were legalized. However, there are areas where inequality is inevitable, hence the relevance of distinguishing between unavoidable inequalities (basal) and avoidable (secondary). Avoidable should be reduced, because in these corruption intervenes to establish rules of inclusion and exclusion in order to maintain hierarchies. Nonetheless, in some areas inequality might be allowed to promote a more egalitarian society, for example, with taxes.

At any case, it is time to take measures to combat or accept corruption because it is unacceptable to continue proposing targets on reducing poverty and inequality while observed results are

meager. It is time to give coherence between what is said and executed, stop living in a world that handles a double speech. That is, the politicians and the economy stop disguising their speeches and openly express if they are determined to fight corruption or, on the contrary, they are ruling and defending the interests of certain privileged individuals at the expense of the welfare of the majority, cynically accepting the consequences that bring inequality and poverty.

If it is effectively decided to overcome both problems, public policies based on a comprehensive approach on several dimensions should be designed such as ending tax havens; combating tax evasion; promoting political control by citizens; preventing unemployment and precarious jobs; improving statistical systems of countries on welfare indicators; avoiding marked gaps of gender, between ethnic groups, between regions, between socioeconomic strata (in areas such as education, health, and nutrition), and a differentiated approach in designing policies for each stage of people life.

The foregoing is validated because it is unacceptable that more than 10% of the inhabitants of the earth live in extreme poverty or that only eight people have the same wealth that 3600 million people. Human beings are entitled to enjoy equal access to the benefits that would result from living in a more egalitarian and less poor world (according to the attribute of the reference in which we want to place the framework for analysis and evaluation). This does not necessarily mean assuming a socialist State, but one that takes its impartial role and stop promoting and maintaining the culture of privilege under the aegis of that everyone gets what he deserves. On the contrary, as long as government intervention is greater, the greater power the interest groups have in controlling public policies and the greater privileges they obtain. As a result of this rent-seeking process, the social inequalities tend to increase in time.

In conclusion, if policymakers are deeply concerned about reducing poverty in their countries, they should start by reducing or limiting inequalities in society. Hence, the importance of the proposal to impose a limit on the concentration of the attribute of interest, since individuals who concentrate more could do so up to a ceiling, which would help reducing corrupt behaviors. Even so, in the presence of a norm ingenious ways to violate it appear, which would require of the State the adjustment of its instruments of control.

Finally, it should be understood that poverty persists because inequality persists, which is legitimated in the political arena where the poor have no voice to remove and prevent sinecures and cooptation of some Government officials. It is certainly necessary to build companies that leave behind the culture of privilege and social injustice, leave submission and instead rebel to defend the right to live in a more egalitarian society and, therefore, less poor.

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## Computer Graphics

<http://datos.bancomundial.org/indicador/NY.GDP.MKTP.CD>

<http://www.un.org/sustainabledevelopment/es/inequality/>

<http://www.un.org/sustainabledevelopment/es/poverty/>

<http://databank.bancomundial.org/data/reports.aspx?source=base-de-datos-sobre-pobreza-y-desigualdad>

<http://transparencia.org.es/>





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# Poverty and Its Alleviation: The Case of Pakistan

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## Abstract

This chapter aims to look at the current status of poverty and existing social policies in Pakistan. Poverty is one of the concerns for the governments of almost all countries including Pakistan. There is a continuous research on the policy measurements by national and international organizations in Pakistan, which demonstrated the decline in poverty. The government has launched many social policies in the past three decades to help the nation in reducing the poverty. Apart from government, many national and international organizations have also contributed a lot in the effort of reducing the poverty. However, there is very little research available on the effectiveness of these social policies, and on the need of social policy areas in particular. Disparity among the urban and rural population is another important factor, which has been discussed in almost every research on poverty. Still, very few social policies in Pakistan are focusing on rural population. Therefore, the issue of social policy needs fresh exploration in the country, which is necessary to make new social policies that can benefit all citizens.

**Keywords:** poverty alleviation, pakistan, economic development, gender inequality, inclusive social policy, poverty trap

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## 1. Introduction

It is a concern of every government to respond to the necessities of equality legislation. Approaches, obstacles, and practices of judgment are some simple values that respond universally, rather than individually. Cultural and systemic change at policy and practice levels is very important to develop an inclusive culture [1]. Accordingly, developing a social policy does not provide the desired outcomes until it has been offered with the best environment and ground support, for these policies to be implemented. The notion of poverty is not new in Pakistan as many studies have been conducted at both national (Government of Pakistan; Pakistan Institute of Development Economics) and international institutions (World Bank;

United Nations). Most of these studies used household surveys based on consumption model to calculate the severity of poverty at national and provincial levels.

In contexts of Pakistan, poverty has always been higher in rural than urban areas. Pakistan has shown a decline in the poverty during 1970s and 1980s, but the trend reversed in the 1990s. Poverty rose more sharply in the rural areas in the 1990s, and the incidence of rural poverty was significantly higher than urban poverty [2]. Inequality in both urban and rural areas also increased in Pakistan during the 1990s, which enhanced the negative impact on poverty. Although agriculture is the main activity in rural society, a significant percentage of the rural labor force, estimated at more than 40%, depends completely on nonfarm activities. The development of nonfarm activities appears to have been severely affected by low economic growth, weakening in public sector development expenditure, and lower worker remittances during the 1990s.

Social policies of some kind have been applied in Pakistan. It is their significance to additional social and human development, which tends to differ. However, social policies are often not conceptualized as social policies in the development context, but rather dealt with, in a broader concept of social development or in the context of poverty reduction strategies. The aim of this chapter is to examine what kind of social policies represent social benefits and what is their relation to social development. In the area of social policies, it is further concerned about social services, such as education and health services. Thus, this chapter examines the case of poverty in Pakistan, the government's efforts for reducing poverty, and the need to improve the social policy structure in the country.

In this regard, institutions that certainly affect individual preferences are considered. Regions with low poverty are the essential determinants of social policies as well as political struggles. Looking at the diagram of Pakistan, institutional structures are constructing individual preferences. Institutions are trying to work together in order to provide future protection to their employees, but it divided the social structure. Therefore, the state employees or employees belonging to social schemes may have future protection. However, workers in rural or agricultural fields who do not meet the criteria to join social schemes do not have future protection.

## 2. Poverty in Pakistan: statistics and facts

### 2.1. Calculating poverty

Calculating a poverty line grounded on some lowest standard level of consumption and assessing the proportion of population below that line, are the most frequently used standard for the measurement of income or consumption-related poverty. However, Planning Commission of Pakistan has recommended an official poverty line in 2000, after 53 years of its independence. According to the definition of Planning Commission, the official poverty line for Pakistan will be estimated on 2350 calories per adult equivalent per day. This is based on an adult equivalent intake of 2150 calories in the urban areas and 2450 calories in the rural areas. Recent trends of poverty in Pakistan are being presented in **Table 1**.

Year	Poverty	Study
1987–1988	13.0	[3]
1990–1991	17.26	[4]
1992–1993	22.40	[5]
1992–1993	25.50	[6, 7]
1998–1999	35.2	[8, 9]
2001–2002	34.5	[10]
2004–2005	23.9	[10]
2005–2006	22.3	[7]
2007–2008	17.2	[10]
2010–2011	12.4	[7]

**Table 1.** Trends in poverty, based on different studies.

The above data illustrate that the incidence of poverty is not constant. There is a persistent decline in poverty based on official poverty evaluation since 2000–2001. There was an elevation in poverty during 1987–1988 to 1998–1999. It was still nearby in 2001–2002 (34.5%). But, it was followed by sudden decline of more than 10% in 2004–2005. Following years from 2004 to 2011 indicates further decline in poverty. Nevertheless, this trend of fast decreasing in poverty has not only created a huge disturbance in the media, but also among development authorities and civil society [11]. But, these trends obtained a support from independent evaluation by the World Bank, which revised the trends in poverty and accepted the decline in poverty [10].

## 2.2. Human development index

According to a recent global survey [12], Pakistan is ranked at 147 out of 188 countries in 2014, which is very low in term of human development, and also lower than neighboring countries like India (130), Bangladesh (142), Iran (69), and Sri Lanka (73). Pakistan scored 0.538 points on human development index (HDI) of 2014, which showed improvement of 0.002 points from previous year, but did not change the overall ranking. Recent trends of HDI in Pakistan are presented in **Table 2**.

The trends in HDI show a continuous increase in points from 1980 to 2014. However, the ranking of Pakistan remains in very low human development index countries.

Year	1980	1985	1990	1995	2000	2005	2010	2011	2012	2013	2014
HDI	0.35	0.38	0.39	0.42	0.44	0.49	0.52	0.52	0.53	0.53	0.53
points	6	0	9	4	4	5	2	7	2	6	8

**Table 2.** Trends in human development index.

Access to education is still a major challenge to Pakistan. Even though enrollment rates for primary school have increased in the past, these are still very low compared to universal values, and also lower than other low-income countries. Similar to poverty, there are major regional, rural-urban and gender disparities. A recent research has shown a relationship between literacy rate and poverty by calculating four indicators (literacy of household heads, their educational attainment, the presence of a literate woman in a household, and highest qualification in a household) [14]. This study showed that families with higher education levels are less exposed to poverty. For example, in Punjab province, poverty was three and half times higher in families headed by an illiterate person than families headed by literate persons. In Sindh province, 55% of poor families were headed by illiterate persons compared to 27% of poor families headed by literate persons.

Health situation and access to health services are other major challenges to Pakistan. All indicators stay at low levels except immunization rate, which points out reduced development. It could be due to very low public spending on health (0.3% of GDP), comparing with regional (0.9% in South Asia) and low-income countries (1.6%). Similarly, infant mortality rate and life expectancy are very low [10].

Gender inequality is another issue which poses a major challenge to Pakistan. Female literacy rates remain low at 42%. Health status of women is also worse than men, and it is affected by the lack of information, mobility, and social norms. The idea of gender includes our hope about the characteristics, approaches, and behavior of women and men, and is vital in facilitating gender analysis. Majority of the females are earning less monthly income as compared to males in both urban and rural areas of Pakistan. Majority of the female in rural and urban areas of Pakistan belongs to low-income groups [15]. So, there is a clear indication that feminization of poverty or gender inequality exists in both urban and rural areas of Pakistan.

### 2.3. Regional disparity

Regional disparity among rural and urban areas is well seen in Pakistan. The higher rate of increase in poverty in the rural areas has prompted debate on growth and productivity trends in the agriculture sector. Recent trends of poverty in rural and urban regions are being presented in **Table 3**.

It is very clear from the above table that there is a huge disparity between urban and rural poverty. Even though both rural and urban poverty decline with every passing year, the decline in urban poverty is greater than rural poverty. Similarly, a research had established an outline that concentration of chronic poverty is found in rural areas of the country [20]. However, different poverty lines have been debated in recent research that has put the urban poverty figure on the higher side.

However, the comparison of poverty levels among agroclimatic zones is very important in poverty studies [21, 22]. Another research exposed the difference of poverty among agricultural and other zones of the country [14]. In this research, it is confirmed that the barani<sup>1</sup> zone

<sup>1</sup>The nine zones are barani Punjab, mixed Punjab, low intensity Punjab, cotton-wheat Punjab, rice-wheat Punjab, cotton-wheat Sindh, rice-wheat Sindh, KP (except D. I. Khan) and Balochistan (except Nasirabad) [13, 23].

Year	Rural	Urban	Studies
1984	41	29	[16]
1993–1994	47	24	[17]
1998–1999	32.11	26.39	[18, 19]
2001–2002	41.02	26.47	[18, 19]
2004–2005	28.1	14.9	[10]
2005–2006	27.0	13.1	[10]
2007–2008	20.6	10.1	[10]

**Table 3.** Trends in urban and rural poverty, based on different studies.

has lowest poverty rate compared to other regions of country. Rawalpindi division has less poverty because of job opportunities in Islamabad capital, armed forces, overseas migration, and strong rural-urban linkages. However, poverty is relatively higher in Southern Punjab (cotton-wheat zone) and Sindh than other zones of these provinces. There is a very important factor that can be drawn from the regional difference among agricultural and nonagricultural regions in the Punjab province. Northern Punjab, which has the lowest level of poverty in the country, is agriculturally poor region with the lowest cultivated area per capita, and no irrigation. On the other hand, Southern Punjab, despite its highest cultivated area per capita and 100% irrigation, is one of the poorest regions in the country.

### 3. Government efforts to reduce poverty

Pakistan does not have any general or universal social protection system that covers all of its population. It does not even have an umbrella institution that would extend social protection and social safety nets to the poor. However, a number of programs targeted at improving governance and responsibility of public institutions to be able to better respond to the needs of the poor, assisting them economically by creating income and employment opportunities, and improving their access to basic services are being implemented by the government, NGOs, and the private sector. Each of these sectors operates in a distinct manner as discussed in this section.

#### 3.1. Governmental reforms

The Decentralization Plan revealed in March 2000, is an essential governance reform that targets to replace the existing highly centralized and control oriented government with a three-tier local government system that institutes “people-centered, rights and responsibility-based, and service oriented” government structures. The important poverty determined facilities, such as health and education, have been transferred to district and lower local governments under this strategy. Provinces, once mainly responsible for the provision of services, assumed new responsibilities to support and supervise the performance of local governments, not as

administrative members of the provincial administration, but as independent corporate bodies accountable to the electorate through political leaders.

Numerous civil service reforms have been implemented by the government to improve public sector and make it more accountable and approachable to the citizens. The issue of improving the financial management system in the country has received particular attention. Microfinance is another step that government took to provide basic support to the poor. Khushhali Bank was established in 2000 with the support of Asian Development Bank. The main aim of this bank was to benefit the poor through income generating activities, to establish small-scale enterprises and small infrastructure ventures. Within first 2 years of its establishment, the bank had distributed an amount of Rs. 100 million to 15,000 beneficiaries, while 30% of the bank's borrowers were women. This bank also supported social mobilization activities within poor communities and development of infrastructures such as water channels and link roads in the neglected rural areas.

Pakistan Poverty Alleviation Fund (PPAF) was founded in 1997 by the government to help poor through loans. Now, it works with the World Bank, to increase the access of poor and microenterprises to credit facilities. Policy guidelines for PPAF are provided by the board of directors, which contains three members from the government and nine members from the civil society. PPAF works as a supplier that distributes its credit through fellow organizations mainly nonprofit organizations. However, the effectiveness of PPAF in this regard has not been officially measured since 1997. So, the policymakers and researchers could not evaluate its benefits to poor.

The Zakat and Ushr Department was established in 1980, which was based on Islamic traditions in which rich people should pay a specific amount at the rate of 2.5% on their wealth to the poor. Zakat is imposed on different assets such as saving bank accounts, fixed deposits saving certificates, mutual funds, government securities on which return is paid and life insurance policies. Banks, companies, and financial institutions that operate these assets deduct Zakat. This deducted amount of Zakat transfers into Central Zakat Fund at State Bank of Pakistan. Central Zakat Fund transfers funds to Provincial Zakat Fund, which further transfers it to District Zakat Committee, based on population basis. Each District Zakat Committee further transfers funds to Local Zakat Committee at village, Mohalla (street or small towns), and other organizations such as Deeni Madaris (religious schools), government educational institutions, and vocational training institutes.

Pakistan Bait-ul-Mal (PBM) was set up as an autonomous corporate body in 1992. PBM was established to work for poverty alleviation through its focus on widows, orphans, disabled, needy, and poor people irrespective of sex, caste, creed, or religion. It provides educational assistance, residential accommodation and necessary facilities, free medical treatment, and promote self-employment schemes. Federal government is the main financing source of PBM but it also receives small grants from the Zakat funds as well as from provincial and local governments.

### **3.2. Social security schemes**

The Social Security Scheme for Employees was first introduced in March 1967. It was the first formal initiative to provide social security to the state employees. Originally, this scheme

particularly covered workers in the textile industry with the objective of providing protection against possibilities of illness, maternity, work-related injury, invalidity, and death. The coverage of the scheme was expanded in 1969, which also included workers from commercial and other industrial establishments having ten or more employees.

The Workers Welfare Fund Scheme and the Worker's Children Education Ordinance were initiated during the early 1970s. These schemes provide education, matrimonial and housing related benefits to workers in the formal sector. The Employees Old Age Benefits Institution (EOBI) was established in the year of 1976 as a federal scheme to provide old age benefits, invalidity and survivor's pensions as well as old age grants to those eligible. It covers formal sector establishments, employing ten or more workers.

Nevertheless, none of these schemes cover workers from the agriculture region, the informal economy and those in the formal sector who are either employed temporarily or through contractors or are employed in companies with less than ten workers.

### **3.3. Role of NGOs and civil society**

There is a close connection between NGOs, civil society, and democracy in any country. In this connection, NGOs are part of civil society that strengthens the society through activities. This process, in turn, supports the democratic development. Civil society and nonprofit sector have appeared as a significant performer on the development aspect in Pakistan, particularly in the last two to three decades. The development of NGOs and civil society as an active development entity is widely seen as a response to the failure of the state in providing successful and well-organized basic social services, and in its overall suppression. Most of the NGOs are working with partner organization at grassroots level for poor and marginalized groups.

However, the exact extents of the nonprofit sector in Pakistan are not known because of multiple laws under which NGOs and civil society organizations can be registered with no centralized system of recordkeeping in government agencies, and also because many organizations are not registered with any agency. For example, in order to be registered, NGOs in Pakistan can opt between five different legal frameworks.

Civil society has considerably progressed in past few decades. It is flourishing in Pakistan with the recent development of technology, geopolitics, and markets. This development stimulates the construction of many civil society organizations, giving rise to exciting representation of citizens at both online and offline platforms.

There are different types of NGOs, which are associated with different types of social services. Welfare-oriented NGOs are primarily philanthropic institutions working with vulnerable groups. Edhi Welfare Trust is the best example for this type of category. It operates a countrywide network of relief services such as ambulance, old houses, orphanage houses, women shelter houses, poor feeding houses, and its work has been recognized internationally.

Social sector, NGOs, and other civil society organizations are mainly focusing on social development limited to health or education. Agha Khan University health program is one best



example, providing health and education services to poor. Numerous NGOs are employing cohesive rural and urban development programs in different parts of the country and provide a range of development services. Most of these have adopted a participatory approach and work closely with local communities.

### **3.4. Benazir income support program (BISP)**

Benazir Income Support Program is considered an important public scheme to support poor families in all parts of the country. It was launched in 2008 as a social safety net platform aiming to increase the living standards of the poor and controlling the negative effects of slow economic growth, food crisis and inflation of the poor (predominantly women). It was started with the goal of providing money to poor families, which would help them to buy basic needs of life such as food and house expenditures. This program is very significant support of government's development program on poverty eradication and women empowerment. Government of Pakistan has continuously increased the allocation of funds for BISP since its formation.

To allocate the poor people, BISP developed a better research design and data collection method. In the opening year, members of National Assembly (MNAs) were given the task to supervise the allocation of poor in their respective areas. However, later on, it was substituted by a Poverty Scorecard (PSC) constructed on a Proxy Means Test (PMT) applied on household census data. PMT consists of 23 variables and uses poverty characteristics such as number of assets, education level of household head and the number of dependents, to identify the poor [24]. It has identified 7.5 million families that are eligible for support fund. However, 4.6 million eligible families are already receiving support funds, which comprise of 17% of the total population. Eligible families were receiving a cash amount of 1000 Pakistan rupees per month in 2012, and the amount is expected to increase in the next years.

## **4. The need for improved social policy structure**

The literature on poverty and poverty alleviation in Pakistan used comprehensive approaches to measure the level of poverty and poverty alleviation. Key initiatives, including government reforms mentioned earlier, reflect this comprehensive approach. The recent findings of international institutions such as the World Bank or the UN have confirmed a relative success in the Pakistan's recent efforts to reduce poverty [10, 12, 13]. However, this comprehensive approach needs appreciation, but it also needs evaluation because there are gaps that still exist in the poverty literature in the country. Schemes that can be found in literature on poverty are mostly related to income-based poverty or to economic wellbeing. Therefore, there is a gap among the overall objectives of these policies and their interventions. A comprehensive approach of poverty and poverty alleviation agendas should take into consideration some other dimensions such as gender equality, women's empowerment, human rights and inclusive social policy.

The role that the state plays in poverty alleviation is determinant for two main reasons. First, it is widely recognized that decentralization of power favors an increase of effectiveness of antipoverty efforts. Second, one-size-fits-all (or a national) approach in eradicating poverty



tends to increase regional inequalities because poverty is not evenly distributed across the country. Therefore, in order to have better outcomes in poverty alleviation, the government should consider a more contextual approach in designing antipoverty policies for different regions in Pakistan.

In the scenario, poverty is not evenly distributed across the country of Pakistan. At the county level of accumulation, poverty is overwhelmingly a rural problem, with the most remote rural places at the greatest disadvantage. Thus, the country should focus more on the reasons for poverty instead of personal choices of favoritism.

On the other hand, the government has also tried to implement economic policy to reduce the poverty. Nevertheless, economic policy is different from social policy in some patterns. First, social policy identifies that social and political structure in which people live. It also determines the physical and economic environment for wellbeing of people. It recognizes the significance of the organization and institutional context within which people exist. Second, it identifies the significance of the poor's own awareness of poverty and the context of their specific identification of priorities. It is an ambiguous concept of poverty in which policy makers and rich assume that they know what poor people want and need. Other characteristics are often neglected except measuring underlining income and consumption. Whereas being poor has various criteria and it is often a mystery that divides them into categories and identifies what do poor need, instead of realizing the real need for poor.

As poverty is more prevalent in rural than urban areas, it calls for special attention from the state toward rural areas. Social policy also appears to face additional barriers to effectiveness in rural areas. A study on the effects of the changes in social policy on employment and poverty among rural and urban female-headed households determined that rural and urban areas differ in personal characteristics of the population, local labor market environments, work barriers, or availability of services that make it more difficult for the social policy changes to move single mothers in rural areas into employment and out of poverty [25].

## **5. Conclusion and future strategies**

Even if some progress has been made in terms of poverty alleviation, the government's policies have had a marginal success, especially in rural areas. Rural areas are suffering from more poverty than urban areas; therefore, the government should give priority to rural areas to reduce poverty. The government must follow a long-term economic plan by considering the fast-changing demographic and economic trends. At this level, Pakistan should pay more attention to the quality of poverty instead of quantity. There are four comprehensive plans and supplementary policies that states might follow in reducing poverty, particularly in rural areas. In addition to these strategies, further research is required on the features of poverty.

### **5.1. Provision of local economic development**

Different studies (for example, see Ref. [26]) had mentioned that income subsidies, tax credits, and low-income loans to employers are incentives that policymakers might think

for disadvantaged rural areas. Such tools can act as incentives for employers to expand their business, create new jobs, hire low and semiskilled workers, and offer services like onsite childcare and van shuttles. Another research argues for regional cooperation and for including poverty and underdevelopment among the explicit criteria to retarget economic development funds to places most in need [27].

This condition requires the development of local economic structure that not only benefits local communities but also helps national economic development. The biggest criticism to this model is that local governments does not have satisfactory human, financial, and logistic resources. In addition to this, administrative staff at local government lacks basic technical and managerial skills. This criticism does not provide enough strength to national or provincial government in order to transfer power to local governments. However, training and support should be provided to local governments and their staff instead of forbidding them. Because central governments at national and provincial levels are unlikely to have the capacity to assess the diversity of local conditions or local requirements and capabilities, their staff is possibly more trained and skilled, but also more remote and far away from local conditions.

Therefore, Pakistan needs a local economic development that offers opportunities for local governments, private sector, NGOs, and civil society to work together to improve the local economy. This development centers on improving effectiveness, increasing sustainable growth, and confirming the inclusive growth. The practice of local economic development ought to be assumed at different geographic measures. This development model provides better opportunities to local communities for economic development compared to national economic model.

## **5.2. Construct community capability and institutions**

Policies to reduce poverty would have to focus on establishing the right circumstances for new industry masses to develop. The key conditions are the institutions that advocate knowledge formation, a business culture that supports entrepreneurship, institutions of higher education such as rural community colleges. As some studies (for example, see Ref. [28]) proposed in the American context, the evidence from workforce development evaluations suggests that institutional collaborations, for example, the participation of business and community colleges in workforce investment initiatives can improve employment outcomes for low-income workers. Therefore, institutions in domestic region not only provide new facilities and jobs but also engage the local community to improve local situations.

Furthermore, if we consider the policies that inspire new concepts of economic development, then we cannot ignore the necessity of local institutions and their role in the local development. This objective can be achieved only by cheering the communicative and dialogic exchange among different stakeholders at both, national and local levels. Therefore, the relationship among local authorities, economic divisions, and citizens could redefine the reasons and effects of poverty, as well as strategies to reduce poverty. Consequently, institutions would not only provide opportunities for work, but they will start the movement to stimulate the local communities.

Social and institutional contribution may look complex because of the different levels of contributions among local actors. However, it will change the behavior and feelings of citizens to be part of local development. Their active participation definitely helps their communities to escape the poverty trap.

### **5.3. Improve workers' productivity**

Development of education and workforce has been seen to have important beneficial effects on earning capacity. A review of policy evaluation for workforce development in low-income workers concluded that education and job training are the most successful ways to help local communities to improve social conditions [29].

Occupational health and safety is a major factor for improving workers' productivity, especially in developing countries like Pakistan that are lagging far behind in health conditions. Common features that may decrease the health safety and workers' productivity are inappropriate workplace design, weak structured jobs, mismatch between worker abilities and job demands, and poor capital-labor ratio. Most of these factors are not directly connected to poverty; however, these are connected indirectly by means of workers' productivity. Therefore, it has direct or indirect effects on the overall performance of country's profile for poverty alleviation. Thus, the government should make an effort to improve worker productivity through education and training.

A recent study (for example, see Ref. [30]) develops some policy recommendations through production jobs to reduce poverty. This research reviews the literature on poverty and growth, and suggested to set up capable institutions for productive jobs that will ultimate help to reduce poverty. Market, organizations, and government are three main institutions that are essential for development. Market is spontaneous where firms provide best practices and productive jobs to the poor areas and the government's role is to establish a correct governing agenda for business development.

### **5.4. Social security for workers in rural area**

As in Pakistan, social security is only serving the workers of public sector and only in urban areas. Thus, government must construct a social security policy for workers in rural areas that provides safety at their retirement age, like governments employees. Provision of social security not only reduces the dependability of old people on their children but also helps to reduce poverty by providing enough funds to old people to look after themselves. BISP is a first step toward social security for low-income families across the country. However, it does not cover the elderly population who claims to be in retirement age. Poverty in rural areas is different from poverty in urban areas and vice versa. Similarly, causes of poverty are also different in both areas. The biggest cause of rural poverty is lack of social security for workers, because most workers depend on their daily or monthly wages which contribute to their current life that does not provide security for the future. Therefore, initiatives should have been taken to provide social security to every citizen including private and rural workers.

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# Poverty Alleviation: The Case of Croatia

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## Abstract

In economic literature, poverty is usually defined as the inability to satisfy basic material needs, particularly adequate nutrition, but also ensuring satisfactory housing, means of production and other assets. The goal of the chapter is to present the current situation of poverty in Croatia with the intention to identify measures for the enhancement of poverty alleviation. From the multidimensional perspective, what matters is a focus on the opportunities—such as a possibility for education and employment, adequate contact to markets and so on—that are available to people. If a person does not possess sufficient capabilities or endowments, he or she has a limited possibility to escape from the unfavourable situation. Poverty in Croatia is stagnant—those who become poor need a long period to escape from poverty. The inactive and persons unemployed are the dominant groups of the poor in Croatia. The current social protection system is a mix of old and new programmes and it has been adjusted in response to altering social needs and opportunities. Successful poverty reduction is associated with the improvement of the labour market, a consistent increase in decentralisation of financial sources and services, the reduction of corruption, carefully reallocating expenditures and improving coordination among existing social programmes.

**Keywords:** poverty, poverty line, social welfare policy, Croatia

## 1. Introduction

Although, at first glance, it looks easy and unequivocal to define poverty, its inherent complexity makes this not at all easy. In economic literature, poverty is usually defined as the inability to satisfy basic material needs, particularly food, but also ensuring satisfactory housing, means of production and other assets. In the daily lives of the very poor, poverty becomes a network of detriments, each one aggravating the other. The outcome is generation after generation of persons who lack access to decent nutrition, adequate education, health care,

satisfactory housing and proper sanitation. They are the most vulnerable to natural disasters and systems of political and economic oppression.

Very often, poor people are incapable of improving their condition and circumstances. Such conditions frequently ruin social relationships cause a dysfunctional family and generate low self-esteem and a lack of self-reliance. They are usually excluded and marginalised from active participation in society and events that are the usual norm for other citizens. Urban residents frequently tend to equate poverty with the impossibility to take advantage of the cultural or social activities that they previously enjoyed. Because of their poverty, such persons experience multiple disadvantages and unsatisfactory characteristics that are transmitted to the next generation. Regardless of the exiting economic situation, child poverty is one of the most significant topics. All governments need to take seriously because children are society's future and will shape it very soon. Poverty in itself breeds unrest and discomfort and creates a lack of hope.

This chapter examines the situation of poverty in Croatia and measures for its reduction. The goal is to present the current situation with the intention to identify measures for the enhancement of poverty alleviation in Croatia. After these introductory notes, Section 2 contains the theoretical framework and the concept of multidimensional poverty. Section 3 deals with the measurement approaches to poverty, with a particular attention towards possible statistical problems and errors. Section 4 presents the issue of poverty statistics in Croatia, while Section 5 deals with characteristics of poverty in Croatia. Anti-poverty policies in Croatia are presented in Section 6, whereas Section 7 contains conclusions and recommendations for the improvement of policies for poverty alleviation.

## 2. The concept of multidimensional poverty

To comprehend poverty, it is vital to observe the social, economic and political context, including the state institutions, the government at various levels, markets (particularly labour market), communities and households. The persistence of poverty is related to its interlinking multidimensionality: it is a complex, dynamic, institutionally entrenched and a gender- and location-related phenomenon. The forms and characteristics of poverty differ by countries, social groups and locations. Poverty varies with respect to age groups, location (rural versus urban), ethnicity, gender and income source. Regularly, children and females in households often suffer more than males. Poverty outcomes are the consequences of complex relations between various stakeholders, institutions and policies in the social, political and the economic spheres [1]. Poverty depends not only on the level and structure of the national income but also more fundamentally on how redistributive policies and changes in the national income cause the variations in households' income and consumption [2].

Poverty can have grave consequences on the health of affected people. It can endanger their psychological stability and cause the feeling of fear, anxiety, crisis, anxiousness, stress and frustration. Poor persons often have significantly worse health conditions; they suffer from continuous feelings of exhaustion and endure more physical pain in comparison to the total



population. These factors also negatively influence their position on the labour market and can lead them to various forms of addiction like heavy drinking of alcohol for instance [3]. Such addictions can further ruin their employability and captivate them into poverty. Many poor people also underline the psychological feature of poverty because they are aware of their feebleness, weakness and exposure to possible exploitation [4].

Poverty usually causes vulnerability and that enables many representatives of state power and/or other citizens to humiliate the poor and treat them as less than human. Poverty generates a feeling of loneliness, and due to the restricted possibilities of maintaining social links with friends, neighbours and relatives, it thus forms a sense of social exclusion [2]. For deprived citizens, it is essential to maintain existing social and cultural norms, particularly because for a majority of them, social solidarity is one of the most crucial positive available factors. Even though poor people regularly underline their social, economic and financial problems, usually, they complain more of social exclusion or limited capacities to break out of the impasse of destitution. Poverty almost never results from the lack of one factor only but from many related factors that accumulate in poor people's experiences and their impression of destitute. If citizens or households fall into poverty, they face a very hard time finding their way out of it. Very often, their social links and relations with friends, family and neighbours are limited or do not exist [5]. Furthermore, due to their non-existing or weak social binding, their possibilities to work in the informal sector are seriously restricted. Thus, for them, it is difficult to find employment in the formal and in the informal economy.

From the multidimensional perspective, what matters is an orientation to the opportunities—like a possibility for education, employment, access to markets and so on—that are normally available to other better-off people. If a person does not possess enough and adequate endowment or capabilities, such as a basic education, or does not have the possibility to obtain them, he or she will have a weak or reduced opportunity to escape from poverty. However, in poverty alleviation, the important issue is how to measure it.

### **3. The measurement approaches to multidimensional poverty**

It is very essential to derive how to measure poverty because it defines (or confuses) attempts to design adequate and efficient policy measures for aiding the poor and for redistribution of income. The most universally used way to measure poverty is based on incomes or consumption levels. The main indicator, absolute poverty, measures the proportion of a population surviving on less than a specific amount of income per day. This specific amount is the poverty line—probably the most contentious topic in the discussion. There are two types of poverty lines: absolute and relative. Absolute lines are related to an absolute minimum living standard and are usually based on a fixed basket of nutritional substances (considered to epitomise the minimum nutritional consumption required for good health) plus an increase for other outlays (such as lodging and clothing) [6]. Absolute lines are usually different in various countries, depending on the structure of the consumption basket. While there is some

arbitrariness in determining what is appropriate and adequate, the concept of a poverty line still is a valuable benchmark [7].

Adequate attention and different methods are used to assess the diet and non-diet parts of the poverty line. Although alimentary necessities are obtained on a scientific basis according to physical needs, the non-diet part of the poverty threshold is not assessed in such way. The procedure recognises households whose spending on food is the same as the cost of the diet specified as the poverty line. After that, one should assess how much households really spend on non-food items that are observed. Thus, the food part is evaluated according to needs, while the non-food part mirrors the poverty of the poor with no guarantee that all basic non-food needs are, or could be, successfully satisfied [4]. This is a serious disadvantage that could neglect the importance of other basic needs such as housing, education, health, information and participation in social and political life.

Regardless of absolute needs, people may deem themselves poor when their living standards are considerably below those of other friends or neighbours. This type of poverty is presented by relative poverty lines that express poverty relative to living standards on the national level. Relative poverty lines are convenient for international comparisons of the features of the worst-off persons in observed countries. Relative poverty lines are usually expressed as a fixed percentage of median or mean equivalent household income and most often uses 50 or 60% of median income as a base for international comparison (the other two are one-third and two-thirds of median income or consumption).

Data on consumption and income are acquired through sample surveys, during which households provide answers to detailed questions on their sources of income and spending habits. Such surveys are realised almost recurrently in most countries. Mentioned sample survey data collection methods are to a greater extent added by participatory methods. The poor citizens should say what their most important needs are and how their life in poor conditions is. Interestingly, new surveys show a high degree of concordance between poverty lines based on objective and subjective assessments of needs.

It is important to have in mind the conventions used to construct these figures and their limits, primarily related to the definition of income [8]. First, very often in household surveys, only cash receipts are included and/or they dominate, while in-kind receipts—payments to individuals in commodities or services—are neglected. One major form of in-kind income is the value of time adults devote to their households. Second, these figures often ignore taxes and in-kind transfers from the government. Third, income is measured over some period (usually annually), although lifetime income should be measured and included. Lifetime income (“permanent income”) would be ideal, but it is hard to estimate. Using the measure of welfare for a longer period (mentioned lifetime income) than annual income would probably lower the share of households in poverty by several percentage points. Fourth, consumption data may provide a better assessment of well-being; the official data on poverty are usually based on income. In today’s world, many people work on the fixed terms and/or on various projects for a definite time. When a person or household’s income pattern is not stable, current income is an incomplete approximation of an individual’s standard of living. People tend to soften consumption over time, spending in advance the money that they will obtain in future [9].

Fifth, there are problems in defining the unit of observation because most people live with others, so there is a question of whether income distribution should be measured over households or individuals? If economies (primarily lower costs per capita) are achieved by living together, should they be taken into account in computing an individual's income? What is an appropriate equivalence scale: how to calculate the cost of second and/or third household's member, how to reckon the child and so on? Furthermore, the equivalence scale does not capture the true economies of scale for this household. Sixth, there is the apparent increase in under-reporting of income; this is what significantly underestimates the incomes of those at the lower end and overestimates of the extent of poverty. Seventh, there is a measurement error, for example, respondents may forget certain expenditures or income component or include ones that should be excluded, and errors may occur in data entry.

The main indicator is the at-risk-of-poverty rate, which shows a share of persons with the equivalised total available income below the at-risk-of-poverty threshold (the poverty line). The at-risk-of-poverty rate does not represent the real number of poor people but rather how many of them have an income (after social transfer) below the at-risk-of-poverty threshold. The at-risk-of-poverty threshold is mostly determined as 60% of the median value of the equivalised disposable income of all households. This indicator does not measure wealth or poverty but low income in comparison to other citizens in the observed country, which does not necessarily indicate a low standard of living.

It is useful to know how far the poverty population lies below the poverty line. This measure is the poverty gap that shows how much income would have to be given to the poverty population to bring every household's income to the poverty line (supposing the transfers had no effects on the recipients' work effort). Regarding the duration of poverty, standard measures of poverty, however, are only "snapshots". They are based on people's current income status and do not account for their history of poverty. However, most people dip into poverty for a longer period, which aggravates the problem of their material and social position [10].

Poverty measurement and researchers have increasingly oriented to measures of poverty intensity which do account jointly for the number of poor persons, depth of poverty and inequality among the poor. For practical purposes, the percentage of change in poverty intensity can be approximated as the sum of the percentage changes of the poverty rate and the average poverty gap ratio. As the parameter rises, more and more weight is attached to the lowest income levels or, in other words, to the well-being of the poorest individuals.

#### **4. Poverty statistics in Croatia**

Knowledge about the scope, problems and incidence of poverty in Croatia was limited until the research on poverty and vulnerability was realised by the government in collaboration with the World Bank [2]. The research was based on the first post-Homeland war (1992–1995) household expenditure survey in Croatia realised by the Croatian Bureau of Statistics. According to the obtained results, poverty in Croatia is relatively low, that is, lower than in most transition states in the region (except for Slovenia). Only 4% of the population lived on

less than US\$ 4.30 a day at the purchasing power parity (internationally comparable standard used across transition economies) and about 10% lived on less than US\$5.30 a day, which the study recommended as an appropriate absolute poverty line for Croatia [11].

In the past, in Croatia, the income poverty indicators were calculated by using data from the total net income of a household and all household members obtained through the Household Budget Survey (HBS). The survey was realised on the random sample of private households in such a way that the sample was separately determined for each year. In 2007, the at-risk-of-poverty rate for the whole population was 17.4% (with income in kind) and 19.0%, (without income in kind), and for employees, it was significantly lower, 4.1 and 4.2%. However, the situation was quite opposite for self-employed persons, whose at-risk-of-poverty rates in 2007 were 17.9 and 24.1%. At-risk-of-poverty rates were much higher for the unemployed (42.8 and 43.7%, respectively) and other economically inactive persons (28.2 and 30.7%, respectively).

In the period from 2005 to 2008 before the economic crisis, there was a stagnant trend in the total at-risk-of-poverty rate (around 17%). However, at the same time, there was an obvious trend of growth of the mentioned rate among single households (39.8 in 2008 in comparison with 31.1% in 2005) and particularly among older single households (47.8 in 2008 in comparison with 35.2% in 2005). For pensioners, the at-risk-of-poverty rate was around 30% higher than the national average, but for elderly people who do not receive pension benefits the at-risk-of-poverty rate was 170% higher than the national average. Croatia has a public pension insurance (pay-as-you-go) scheme of Bismarck type so if the person did not pay pension contribution and does not have a family (survival) pension, he or she is not entitled to the pension rights. It is estimated that in Croatia, there are roughly 13% of people above 64 years of age who do not receive any pension benefits. These are mostly women that account for more than 95% of this cohort [12]. Elderly people without pension who live in single households are at the most adverse economic position.

The at-risk-of-poverty rate started to grow in the beginning of the economic recession (18 in 2009 in comparison to 17.4% in 2008). The Croatian at-risk-of-poverty rate in 2010 was 20.6%, which is considerably higher than the EU-27 average (16.4%). The rate in Croatia increased also in 2011 to 21.1%. In 2010 and 2011, there were no significant changes in the poverty profile. In addition to the oldest age group, children at the age of up to 15 years had the at-risk-of-poverty rate above the national average. While in 2009, the relative poverty rates among the children and youth grew, in 2010, the at-risk-of-poverty rate for children in the group 0–17 (20.5%) was at the national average level. On the other side, at-risk-of-poverty rates for youth in the age 18–24 (21.6%) and persons over 64 years (28.1%) were above average.

In the period from 2006 to 2009, the difference between the at-risk-of-poverty rates for males and females increased. In 2010, the difference was 1.6 percentage points, which is significantly less than in 2009, when it was 3.8 percentage points. The greatest difference between the at-risk-of-poverty rates for males and females is in the eldest age group (65+). The mentioned difference continued to grow from 2006 to 2009 (from 4.4 percentage points to 12.8 percentage points, respectively). In 2010, the at-risk-of-poverty rate for elderly women was by 8 percentage points higher than the rate for men.

In 2009, in comparison with 2008, the at-risk-of-poverty rates augmented expressively among the jobless persons, single households with older citizens (as mentioned mostly women) and families with three or more children. In 2009, the highest growth in at-risk-of-poverty rates in comparison with 2008 was recorded for households with three or more children (by 12.8 percentage points). During the observed period, the at-risk-of-poverty rates for children (0–15) increased by 3.8 percentage points, for the unemployed by 4.8 percentage points and for subtenants by 5.4 percentage points. The at-risk-of-poverty rates for households with two adult persons and one or two children, as well as of other households with dependent children, increased slightly in 2009 but were still below the national average. The mentioned rates for pensioners increased moderately in 2009 when compared to 2008 (less than 1 percentage point) and was 35% higher than the national average [13].

According to the data for 2010, single households, single-parent families and families with two adults and three and more children had the at-risk-of-poverty rate that was above average. Just like in previous period, single persons recorded the greatest risk of poverty. Their at-risk-of-poverty rate was 44.5%. The situation was particularly unfavourable for single households with elderly household members, where every other person was at risk of poverty. Single parents with one or more dependent children had the at-risk-of-poverty rate around 68% (or 14 percentile points) higher than the national average). Households with two adults and three or more children also had a very high at-risk-of-poverty rate (33.1%), which was the result of an adverse impact of the economic crisis on income and the situation on the labour market characterised by the high unemployment rate. At-risk-of-poverty rates for households with two adult persons and one or two children and other households with dependent children were mostly under or at the level of the national average. In 2010, the at-risk-of-poverty rate for children in the ages from 0 to 17 (20.5%) years was at the national average level, while at-risk-of-poverty rates for youth in the age group 18–24 (21.6%) and persons over 64 years of age (28.1%) were higher than average. It should be mentioned that the at-risk-of-poverty rates of the unemployed (44.7%), and especially unemployed men (51.4%), were particularly high [14]. In 2011, the at-risk-of-poverty-rate increased to 21.1%. Higher at-poverty-risk rates in 2011 were for the unemployed (42.5%), followed by the economically inactive (33%) and the retired (22.2%). The at-risk-of-poverty rate for 2012 was 20.5%, while exposure to poverty was higher in rural areas (38.1%).

For 2014, mentioned rates were calculated using the Survey on Income and Living Conditions (SILC). The indicators are based on a concept of relative poverty, which takes into consideration the disposable household income, the number of household members (household size) and the income distribution within the population. According to the survey data, the at-risk-of-poverty rate<sup>1</sup> in 2014 was 19.4%. In 2014, the lowest at-risk-of-poverty rate by the most frequent activity status was obtained for employees, 4.7%. It amounted to 5.8% for male employees and 3.5% for female employees.

<sup>1</sup>All other data on poverty trends and comparison in Croatia are available on [http://www.dzs.hr/default\\_e.htm](http://www.dzs.hr/default_e.htm), <http://povertydata.worldbank.org/poverty/country/HRV>; [http://ec.europa.eu/eurostat/statistics-explained/index.php/People\\_at\\_risk\\_of\\_poverty\\_or\\_social\\_exclusion](http://ec.europa.eu/eurostat/statistics-explained/index.php/People_at_risk_of_poverty_or_social_exclusion).

Analysis and official estimations show that the profile of poverty has changed under the influence of the crises and that the risk of absolute poverty has increased for the children and the youth population under the age of 30 [15]. The highest at-risk-of-poverty rate by the most frequent activity status was for unemployed persons, and it amounted to 43.2%. It was 49.5% for the unemployed men and 37.4% for the unemployed women. For the self-employed, the at-risk-of-poverty rate was 14.9% (male 16.5% and female 11.6%) [16]. Regardless of the impossibility to compare directly the data from mentioned surveys due to the different methodology, the results from 2007 and 2014 show that the risk of poverty in Croatia is directly related to exclusion from the world of work. In 2014, the highest at-risk-of-poverty rate was indicated for unemployed persons and amounted to 43.2%, while for employees it was 4.7%.

For Croatia, different poverty rates were calculated by EUROMOD [17] than by the official SILC data by the Croatian Bureau of Statistic. In 2011, EUROMOD recorded a larger poverty rate for the group “65+ years”, by 2%, than the external source. This is probably due to use of pensioner contributions in EUROMOD, whereas SILC data might not assume that form of contributions. For all other age groups, poverty rates are lower in EUROMOD, and the discrepancy mostly lies in the difference between EUROMOD and SILC regarding the coverage of social assistance benefits, which significantly affects the bottom income decile. The most remarkable difference in 2011 is for the group “0–15 years”, where EUROMOD indicates 13% lower poverty rate than the external source. This may be caused by the fact that social welfare benefits (particularly in that time applied subsistence benefit) had a relatively more pronounced effect on families with children.

According to the small area estimation model and consumption approach, the estimated at-risk-of-poverty rate in Croatia amounted to 17.1% in 2011, while the at-risk-of-poverty threshold was HRK 23,919 (€ 3190) for a one-person household. It is assessed that 17.1% of persons had equivalised consumption below the threshold in 2011. At-risk-of-poverty rate estimates at the NUTS 2 level in Continental Croatia amounted to 19.4 and to 12.6% in Adriatic Croatia. Looking at the estimates at the level of counties, they range from 5.9 to 34.3% [18].

Of the population in the EU-28, 24.4% were at risk of poverty or social exclusion. More than one-third of the population was at risk of poverty in the three EU member states: Romania (40.2%), Bulgaria (40.1%) and Greece (36.0%), while Croatia with 29.9% is sixth in Europe and significantly above the at-risk-of poverty rate before social transfers EU-28 (26.1%). The at-risk-of poverty rate after social transfers for Croatia in 2014 was 19.4%, which is 2.2 percentage points above the at-risk-of poverty rate after social transfers for EU-28 (17.2%) [19].

The material deprivation rate presents the share of persons who live in households that—because of insufficient financial resources—cannot afford at least three of nine deprivation items. For Croatia, the rate of material deprivation in 2014 was 33.8% [16].

Succinctly, in Croatia areas most affected by poverty often have high unemployment and inactivity rates of their population. The education attainments of local population are mostly low; while poor areas can provide only lower incomes, lower living standards and poorer dwelling conditions contribute to the significant depopulation to other parts of the country or



abroad. In the following section, attention is oriented towards more detailed characteristics of poor citizens in Croatia.

## 5. Characteristics of poverty in Croatia

There are several prevailing groups among the poor in Croatia, principally the unemployed and inactive persons. In that way, in-work poverty is not a particular problem in Croatia because employment (and self-employment according to the data from 2014) is a relatively secure protection from poverty. The situation did not change during the economic crisis, and the main traits of poverty have stayed the same. In Croatia, there has been a division of the society: relatively securely employed (insiders) and the unemployed persons (outsiders) of whom a substantial share is the long-term unemployed [20]. A significant part of long-term unemployed persons is with low employability. Thus, they have small chances of finding a job and are trapped to live in the poverty.

According to the presence of the risk of in-work poverty, Croatia is below the EU-28 average, regardless of the type of labour contract. Thus, 4% of employees with contracts for an indefinite time and 9% of employees with fixed-term contracts were at risk of poverty. In the last few years, about 6% of employees were living in poverty. However, there are various groups of employees that are probably more exposed to in-work poverty, primarily people without education and qualification and people with lower educational attainments, employees working only on seasonal work, self-employed employers, involuntary part-time employed and temporary agency workers.

Although the unemployed and inactive represent a relatively small share of the poor population in the Croatia, they are seriously exposed to danger from poverty, while working status—particularly permanent and full-time employment—is a reliable shelter against poverty. Almost three-fourths of the poor citizens live in families whose main member has only a primary education or even incomplete primary education. These people have reduced possibilities of finding work if they are jobless and/or of having higher earnings if they work. The risk of poverty is overall high when low educational attainment is linked with inactivity or unemployment. Citizens that live in households where the household head is an unemployed or inactive are around three times more likely to be trapped in poverty than the total population. The probability of poverty problems is even greater for the unemployed persons with small children.

Poverty in Croatia is stagnant—those who are poor have limited possibilities and need a great deal of time to exit from poverty. There is no recent data on poverty duration, but one older study by Šućur [21] provides some insights into the social, economic and demographic characteristics of unemployed welfare recipients in Croatia. The first goal of the analysis was to make a distinction between subgroups of users. The author takes into the account their working participation or inactivity and how long they had been receiving welfare benefits. The second goal was to find out which factors were predominant in determining the duration of

the period of obtaining benefits. Šućur makes a distinction between beneficiary of social aid (the individual person who is the applicant for assistance) and user (includes formal applicant and members of his or her family that used the received benefit). In the analysis, there was a sample of 501 social beneficiaries. According to their employment status, welfare recipients consist of two dominant groups: the unemployed persons and the disabled. In comparison to other transitional countries, Croatia has a higher share of unemployed persons in all welfare recipients. Around 70% of welfare recipients have no qualification or have only primary education attainment. Probably, many do not have basic skills of literacy and numeracy, while some have had no formal education at all.

The length of receiving the welfare assistance varies in statistical terms, depending on the level of education attainment, beneficiary's age and region where the person lives. The less educated and the older recipients are more likely to remain longer as social welfare benefit recipients. The average length of benefit-receiving is quite long (almost 5 years). The average length of welfare scheme usage is 7.3 years for users without education and around 3.5 years for persons with tertiary education attainment. Regarding the age, it is 2.5 years for the younger welfare recipients (between the age of 19 and 29) and 7.6 years for those older than 60 years of age. According to regression analysis, one can predict that welfare assistance is received for a longer period by applicants of senior age, of lower level of education, those who are not married and living in incomplete families and who receive other benefits available under the social welfare system.

Those who do not have remunerative employment due to low levels of education attainment are also likely to transfer their limited opportunities for their children. Available data show that the access of children from poor families to upper secondary and tertiary education level is very limited. The children of the poor are more likely to drop out of the schooling system early, and differences in access to tertiary education are obvious. The poor have access to university only through relatively few highly competitive scholarships. The lack of access to levels of education that are highly valued on the market tends to prolong existing inequalities in earning prospects between the poor and non-poor and to create the probability for the intergenerational transfer of poverty [11].

As a conclusion, we can reiterate that a considerable number of Croatian citizens, particularly the unemployed and inactive persons, suffer from a poor financial situation, adverse social and living conditions and absence of suitable access to public goods and services. Due to the long-lasting economic recession from 2008 to 2014, increased unemployment and budgetary problems, there was further deterioration of the social position of significant number of citizens. In order to alleviate the consequences of the crisis, the government is proposing and implementing various measures regarding economic, fiscal and particularly social welfare policy.

## 6. Anti-poverty policies in Croatia

The eradication of poverty is an ethical and moral imperative rooted in the principles stipulated and respected by the United Nations (UN). It is, also, a part of various important international



documents such as the Millennium Declaration and the Millennium Development Goals of the UN, as well as documents related to the European principles of solidarity and the welfare state such as the European Social Charter. To live a life free from poverty and hunger is one of the human rights and fundamental freedoms incorporated in the Universal Declaration of Human Rights. The Croatian Government is also active in the eradication of poverty, which is obvious in various strategic documents like the Joint Inclusion Memorandum of the Republic of Croatia from 2007, Strategy for Combating Poverty and Social Exclusion in the Republic of Croatia (2014–2020) and National Reform Programme 2015.

The current social welfare protection system in Croatia is a mix of old and new programmes. It has been frequently changed due to the altering social opportunities and conditions with the intention to ensure more efficiently the provision of social transfers and needed services. Croatian social welfare system consists of three basic components: cash aids, benefits and services in kind and a variety of foster care and residential programmes. According to the statistics maintained by the Ministry of Demography, Family, Youth and Social Policy, there are various financial transfer benefits as well as numerous types of in-kind assistance provided. Furthermore, most local government institutions and bodies as well as many NGOs provided financial aid and services for various groups of citizens like poor, disabled and infirm persons, the elderly and so on. Money aids financed on a much larger scale than in-kind benefits and services, although there are a relatively large number of recipients of the latter. In fact, this is deceptive because the main in-kind programme is the assistance in covering costs for public and communal services. The evaluation [22, 20] has shown that financial outlays inside the large programmes (pensions) are less directed towards helping the poor, while those programmes on which fewer expenditures are spent (welfare benefits) are more strongly oriented to the impoverished.

Total social costs in Croatia at the beginning of millennium were around 21% and were considerably lower than in EU-27. Nevertheless, said outlays in Croatia were higher than in other transition countries (with the exception of Hungary and Slovenia) and similar to the ones in the Czech Republic and Poland. In Croatia, there was an obvious trend of a gradual reduction of total social outlays after 2001 (to 19% of GDP in 2008) due to a relatively high economic growth until 2009 and a decrease in pension expenditures. Since 2009, because of economic crisis and deterioration of the situation on the labour market, there was an opposite trend of growth in the absolute amount of the mentioned expenditures and increase of their share in GDP (to 21.5% in 2010). Comparing data on the share of social protection expenditures in the national GDP with the share of such expenditures in the GDP of the other EU member countries, Croatia ranks 18th, lagging by 8.6 percentage points behind the average of the EU-27.

Previously, the most important social welfare form of aid was subsistence benefit (*pomoć za uzdržavanje, stalna pomoć, minimalna zajamčena naknada*). It was a means-tested benefit, intended for households whose income was below the “means of subsistence”. The means of subsistence represented the amount of money necessary to satisfy the basic needs of the observed household. They were defined as a sum of individual contributions depending on the traits of the household members. When calculating means of subsistence, children, the elderly and disabled people were automatically accounted; working-able persons in the age between 18 and 65 years

were not included into account unless they did satisfy the conditions for being treated as unemployed. According to Urban and Bezeredi [17], the poorest decile seems to have benefited the most from changes in means-tested benefits and in particular from the increase in the subsistence benefit levels. On the other hand, the simultaneous introduction of a cap in this benefit, set at the level of gross minimum wage, had a negative impact on the second income decile.

Subsistence benefit was replaced with a single basic Minimum Income scheme which is termed Guaranteed Minimum Benefit (*Zajamčena minimalna naknada* – ZMN) and introduced in a law which came into effect on 1 January 2014, merging the basic social assistance scheme with two smaller benefits. The scheme has been amended in September 2015 with some changes taking effect immediately, and the others set were implemented on 1 June 2016. The ZMN is a national scheme, means-tested and asset-tested. Croatia spends about 0.4% of GDP on this scheme annually. Anyone may be entitled to ZMN providing his or her income is not sufficient to guarantee person's subsistence. A number of sources of income, including a range of other benefits, are not taken into account when considering eligibility for ZMN. For those capable of work, receipt of ZMN is conditional on being available for and actively seeking work. Although subject to review and adjusted in the light of changing circumstances, there are now no time limits of the receipt of ZMN, even for those who are capable of work, a change introduced in September 2015. Changes are following: (a) the contribution of children in the calculation of the "means of subsistence" is significantly lowered, (b) additional conditions for working-able individuals were introduced and (c) the wealth test is stiffened and so on. Those who find work can continue to receive ZMN, in decreasing amounts, during the first 3 months of employment. Mentioned changes from 2015 have improved the situation for single persons and single-parent households but couples with children, even if in receipt of child benefits, receive less under the ZMN scheme than under the previous social assistance scheme. ZMN covers only between 32 and 46% of subsistence needs of different model households, defined as 60% of median income. Coverage of the ZMN scheme is low and has not increased significantly during the crisis. Currently, the scheme reaches only about 12% of those who are at risk of poverty, but leakage of the scheme to higher-income groups is extremely low and, indeed, targeting appears to have improved over time.

There is no specific arrangement for the transition from unemployment-related benefits to ZMN benefits. Unemployment benefits received in the previous 3 months are included as income to be taken into account when assessing a claim as is income received from active labour market policies. There is, however, provision for a tapered withdrawal of benefits on return to employment. Those who find work while claiming the benefit may continue to receive ZMN for the first 3 months of employment in decreasing amounts from 100% in the first month, to 75% in the second month and 50% in the third month [23].

Pursuant to the provisions of the Job Placement and Unemployment Insurance Act, unemployment insurance in Croatia includes among other unemployment benefit (UB). Unemployed persons acquire the right to UB provided they had worked 9 out of 24 months prior to termination of employment and that such termination was not caused through their own fault or will. Depending on the total years of service, an unemployed person may claim UB for a period from 90 to 450 days. The basis for determining the UB amount for a person whose work

relationship has been terminated is the average salary earned in the 3-month period preceding the termination of employment reduced by statutory contributions. During the first 90 days, UB amounts to 70% of the base amount. During the remaining period in which UB is received, the recipients get 35% of the base amount. During the first 90 days, UB may not exceed 70% of the base amount. In the remaining period, it may not exceed 35% of the average salary paid in the Croatian economy in the previous year. The highest unemployment benefit in 2015 amounted to HRK 3873 (€ 516), whereas the average unemployment benefit amount was HRK 1817 (€ 242). Thus, the net replacement rate (the share of the average unemployment benefit in the wage before unemployment) for the 6-month period was 52.5% which is among the lowest share in the EU, while the coverage rate (the number of the unemployment-benefit recipients in total unemployment) in 2015 was 16.9% [24]. In comparison with other EU member states, UB in Croatia has relatively low replacement rate and very low coverage rate [25].

There is no particular group that the policies target, but some more theoretical attention and discussion have been directed towards the model “does work pay”. According to calculations, in Croatia regarding this issue, vulnerable families are those in which an employed member earns a low wage or salary, families that receive all types of available benefits and social assistance, families with only one adult member who works and families with more children. The most significant determinants of the marginal effective tax rates are social welfare subsistence and unemployment benefit.

There are some local benefits like housing benefit and lump sum assistance directed towards the poor population. Housing benefit (*pomoć za podmirenje troškova stanovanja*) is received for covering the costs of rent, electricity, gas, heating, water and other housing bills. Local self-government (LSG) finance and disburse such benefit and determine income tests and amounts of benefit. The maximum amount is equal to 50% of the amount of subsistence benefit. Since January 2014, it is explicitly defined that the beneficiaries must be receivers of subsistence benefit (now Guaranteed Minimum Benefit). The recipients of such benefit also have the right to claim the benefit for covering the wood-heating costs, which is also administered and financed by LSG units.

Although there are various measures oriented towards the poor and vulnerable, combination of such measures targeted towards in-work poor is still missing. Thus, Nestić et al. [26] conclude that in Croatia, employment does not protect one from poverty for those with minimum wage and badly paid jobs.

Despite relatively high expenditures, most of the benefits in the social welfare systems are low. This is particularly so in the case of social assistance benefits (today Guaranteed Minimum Benefit) and unemployment benefits. The social protection system is mostly public, but there is an increasing privatisation in some social protection sectors (the pension and health systems and service provision in the social services system) [27].

As a part of active labour market policy, in the period 2013–2015, the Project Training for Employment for Workers Facing Unemployment and Long-term Unemployed Persons and other groups unfavourably positioned in the labour market was realised. It included surplus employees, workers facing the threat of layoff and long-term unemployed persons. The main

objective of the project was to provide support in the implementation of active employment measures, and its purpose is to increase the level of employability of surplus workers and long-term unemployed persons through vocational training for employment.

The Ministry of Labour and Pension System, in collaboration with its implementing body which is the Croatian Employment Service, during 2015, promoted fiscal relief for hiring long-term unemployed persons in accordance with the stipulations of the Employment Incentives Act. Active labour market policy programmes are continuously being implemented in accordance with the Guidelines for Development and Implementation of the Active Labour Market Policy. Due to the circumstances in which employment of long-term unemployed persons is becoming more difficult, a special focus of measures is oriented towards their activation through additional education or employment based on facilitated criteria and greater aid intensity. Contracting of active labour market policy projects financed by the European Social Fund commenced at the end of 2015.

The Strategy for Combating Poverty and Social Exclusion in the Republic of Croatia (2014–2020) indicated priorities and corresponding primary objectives within eight strategic areas. Education and life-long learning are specified as an area of long-term priority, followed by employment and access to employment; adequate housing and availability of energy; access to social benefits and services; access to the health system; efficient care for the elderly people; the fight against indebtedness and promotion of financial independence and balanced regional development. Each strategic area includes several main strategic activities and the methods of their implementation, which are presented in more detail within a 3-year implementation programme on the national level.

In accordance with the main goal of the Strategy Europe 2020, Croatia aims to reduce the number of persons at the risk of poverty by 1,50,000 by 2020. This is based on the assumption that the economy will grow, the trends on the labour market will be positive and that there will be conditions for the opening of new workplaces. Furthermore, it has planned to implement the labour policy measures oriented toward the long-term unemployed and other vulnerable groups (the youth, persons with disabilities, the Roma). Additional efforts are dedicated to improve the adequacy of social benefits in the social welfare system, the accessibility and uniform availability of the various social rights and services like education, health care, social welfare and others. Finally, attention is given on the availability of housing, the reduction of regional differences and the prevention of indebtedness and financial dependence.

In the achievement of the strategy goals and the implementation of related measures and activities, further principles are respected and followed: a multidimensional approach to dealing with the problem of poverty; solidarity and the principle of non-stigmatisation; subsidiarity principle; objectivity in the planning of measures based on clear indicators; coordination and equal and synergetic participation of all stakeholders in strategy preparation and implementation and an innovative social policy approach. The government is fully aware of the importance of lifelong learning as a precondition for successful employability and sustainability on the labour market, the fulfilment of personal potential and development of active citizenship. A central role in the implementation of the lifelong learning policy belongs, among others, to adult education, which represents a key component of the lifelong learning

continuity. The share of persons between the ages of 25 and 64 participating in education and training in Croatia is only 2.9%, whereas the European average is 8.9%, which is an obvious confirmation of the need for additional attention and investment in this area.

The government believes that employment is the best route out of poverty. It is committed to reduce poverty and dependency on social welfare benefit system and to help unemployed people in finding work and support themselves and their families. Continuation of the implementation of reform measures in this area aims at enhancing the efficiency of the system of social benefits, further stimulation of employment of unemployed and activation of inactive persons, strengthening transparency of the system and increasing the adequacy of social welfare benefits. This is achieved with consolidation of social benefits through the development of the mentioned Guaranteed Minimum Benefit and the One Stop Shop.

## **7. Conclusions and policy recommendations**

In Croatia, there is still a deeply rooted and/or highly widespread paternalism—the belief that the government is obliged and can solve all crucial financial and other problems of its citizens. However, a substantial body of research has shown that the governments are not able to solve mentioned issues on their own. What is more, there is no single model for poverty reduction that is optimal for and applicable in all societies.

What the government should and could provide is a stable legal framework, social infrastructure that, with the co-operation of its citizens, would establish the rule of law. Croatia, as each and every other country, has to find and develop constitutional and legal arrangements that best suit its own historical, social, cultural and economic situations, conditions and possibilities. Otherwise, the poor will suffer most from the lack of a clear legal framework and unwillingness of other parts of the society to respect the rule of law. It is important to enforce and strengthen the current legal framework rather than pursue further changes in the legislation and the organisational structure. However, in order to make the laws work, political will and leadership commitment is vital, just as important is the empowerment of citizens and their full participation in the political and decision-making process.

The society and state have to be committed to the reduction of poverty. The right way to solve problems of destitute citizens is not by punishing the rich but by doing more to support the poor to become more affluent. Regarding labour activity, for the poor citizens, it is crucial to create preconditions for equal and successful access to the labour market. This can be realised with activation and integration as well as adequate support and targeted efforts in enhancing social inclusion and mitigating adverse personal and social consequences of unemployment. This means not only empowering the bonds of trust and mutual respect among all citizens in the society but also equipping poor citizens by increasing their social capital and employability. This can be accomplished by enhancing their skills, knowledge, attitudes and values, which will enable them to be successful in equal participation on the labour market. A primary goal of economic and social policies must be to get people into work or back into work. For majority of welfare benefit recipients, dependency on social welfare support cannot

provide an adequate alternative to regular employment regarding material well-being and psychological satisfaction.

One of the most important priorities of economic policy in Croatia currently represents the increase in employment, with the goal to solve the problem of low employment rate. There is a strong link between low educational attainment, inadequate employability, long-term unemployment and poverty. Many of the poor and long-term unemployed have multidimensional problems that often include a low level of education attainment and motivation. The issue of long-term unemployment in Croatia is very serious and although there was a respectable improvement in active and passive labour market policies, there is still a scope for their further enhancement. Sometimes, it seems that unemployment problems could be resolved immediately, if only there were enough available financial resources for implementation of various employment measures. However, it is more useful and important to invest in “quality” than in quantity of active labour market policy measures. That means to insure appropriate emphasis and orientation on the long-term unemployed and those with a low level of employability.

Furthermore, a coherent framework of employment measures is essential and needed with clearly defined components, which empower each other in resolving the issue of long-term unemployment and help people who can become long-term unemployed. To improve the design and implementation of the active labour market policy measures, the evaluation of effects of performed activities can be of great benefit. Thus, available financial resources are directed to those participants and programmes where there is the biggest benefit and the largest investment return. Next to the improvement of employment opportunities, there is a need to enhance reconciliation of family life and work, primarily related to the inclusion of kids into adequate and affordable preschool institutions.

Furthermore, it is essential to reinforce the social safety net and welfare system through a better design, amended targeting and monitoring the effects of social welfare measures. Finally, it is vital to empower non-governmental sector in the provision of social services and decentralise some social services to the lower level of the government. The priority should be to insure adequate support to the development of social services and to the increase capacity of their providers in combating poverty. Croatia's prospects for economic growth and job creation look good, presuming that fiscal retrenchment and reforms continue. Enjoying political stability, the Croatian Government should continue to promote and improve the current poverty alleviation policies. To be taken into account in designing these policies are various risks, primarily related to the internal path dependency and/or policy slippage as well as vulnerability to adverse external developments and political influences.

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# The Impact of Trade Liberalisation on Poverty and Welfare in South Asia: A Special Reference to Sri Lanka

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## Abstract

This chapter evaluates the economic impacts of SAFTA relative to alternative trade policies to determine which policies best deliver increased welfare to citizens, thereby helping to alleviate income disparities and poverty in the region. The study does so with a particular emphasis on the income inequality and poverty effects of trade liberalisation in South Asia on households in Sri Lanka. A static multi-country computable general equilibrium model for South Asia (SAMGEM) is formulated by incorporating a multiple household framework into the Global Trade Analysis Project (GTAP) model. A non-parametric extended representative household agent approach is used to estimate the income inequality and poverty effects of trade liberalisation in South Asia by using micro-household survey data. The findings revealed that amongst the different trade policy options considered, unilateral trade liberalisation ensures the highest welfare to all South Asian members followed by the customs union (with the exception of Sri Lanka) and the SAFTA. The poverty and income equality analysis for the Sri Lankan economy suggests that poverty is predominant in the rural and the estate sectors and Sri Lanka can achieve a significant progress towards poverty reduction as a result of implementing trade reforms.

**Keywords:** trade reforms, poverty, income distribution, households, CGE model

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## 1. Introduction

In a world increasingly dominated by the forces of globalization and regionalization, it is important to stimulate thinking on, and explore solutions to, some of the salient issues accompanying trade reforms. In line with trends in other economies, South Asia initiated trade reforms during the last two decades with a view of integration into the world economy, hence improving their growth prospects and reducing poverty in the region. In the 1980s,

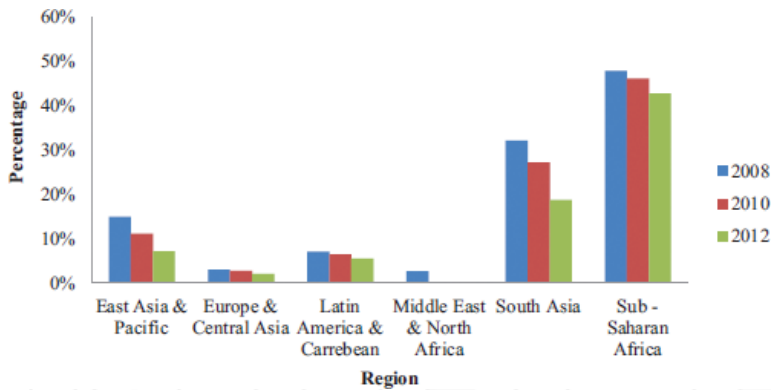
Bangladesh proposed the idea of a 'regional forum' in South Asia, drawing attention towards the success of similar arrangements elsewhere in the world, thereby enabling the South Asian economies to get benefit from such co-operation by strengthening their competitive position, both individually and as a group [1]. Consequently, the South Asian economies commenced regional integration initiatives with the formation of the South Asian Association for Regional Co-operation (SAARC) in 1985.

The trade liberalisation in SAARC aims to establish South Asian Free Trade Agreement (SAFTA) as well as probe beneath the deeper integration levels such as customs union through the elimination of tariffs and Non Tariff Barriers (NTBs) and structural impediments to free trade.

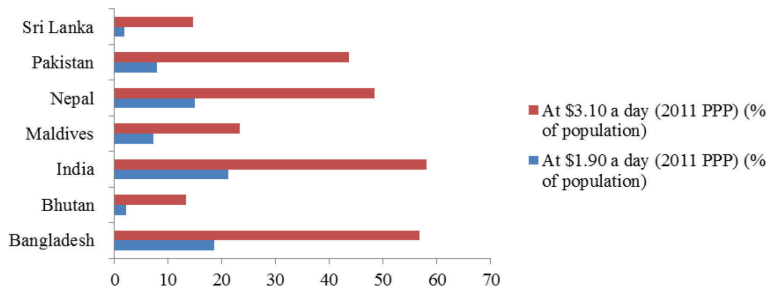
Many studies have shed light on South Asian Preferential Trade Agreement (SAPTA) and SAFTA, but only a few quantify the possible economic impacts on member countries as given in [2–7]. Quantitative estimates of gains from the SAFTA can either be made by using gravity models or CGE models in [8]. In Ref. [9], the study quantified the impact of the SAFTA using 1997 statistical series in gravity model and found that the seven SAARC economies not only reduced trade among themselves but also with the Rest of world (ROW). Nevertheless, in [10] it was used both panel and cross sectional data for the period of 1996–2002 to estimate trade creation and trade diversion effects under the present SAFTA regime and found the evidence of trade creation among the SAARC member countries, without any trade diversion with the ROW. Among these studies, there is a disagreement about the economic outcome of the preferential trade agreements in the SAARC region on its member countries, as stated in [11]. In Ref. [6], the early studies were examined showing impact of potential benefits of the SAFTA on the member countries and classified those findings into three views: optimistic, pessimistic and moderate. The study quantified the welfare implications of the SAFTA by comparing with the effects of unilateral trade liberalisation and other policy options on member countries using the Global Trade Analysis Project (GTAP) model. They found that the potential benefits of full trade liberalisation in South Asia are marginal for most of the countries except for India, which stands to gain significantly from the agreement. Hence, their study supported the pessimistic view and indicated that South Asian countries may gain more from the unilateral and multi-lateral trade liberalisation than under the SAFTA.

Arguments in favour of free trade suggest that trade liberalisation accelerates economic growth, which leads to reductions in poverty and income inequality in developing countries [13–16]. However, as stated in [17, 18], others are of the opinion that trade liberalisation produces welfare losses, thereby increasing poverty and income inequality in developing countries. **Figure 1** illustrates that South Asia remains home to the second highest number of people living below the poverty line, although the region has experienced a substantial reduction in both the incidence of poverty and the absolute number of poor. Poverty in the South Asian region has fallen from 32.1 in 2008 to about 18.8% in 2012.

Poverty Headcount data of the South Asian countries are depicted in **Figure 2**. According to this figure, it is clear that Sri Lanka has the lowest poverty headcount ratio amongst all South Asian economies. The poverty headcount ratio in Sri Lanka is recorded at 1.9% in 2012, calculated at \$1.9/day. On the other hand, Bangladesh and India suffer from relatively high poverty headcount ratios in the region.



**Figure 1.** Working poor living on less than US\$1/day by region: 2008–2012. Source: World Bank [12], World Development Indicators Database, 2014.

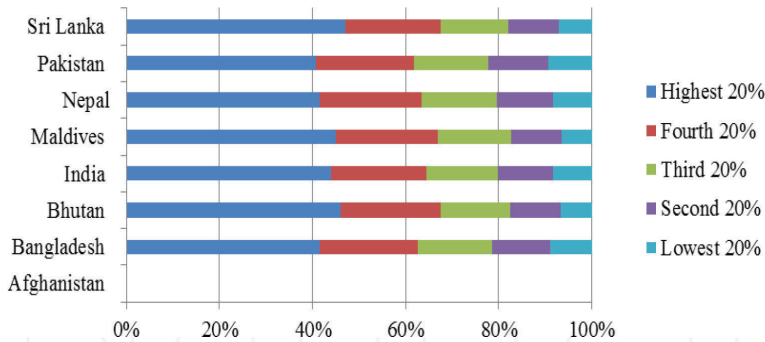


**Figure 2.** Poverty headcount ratio for South Asia: 2012. Source: World Bank, World Development Indicators Database, 2014.

From **Figures 1** and **2**, it could be noticed that, although poverty as a proportion to the population has fallen in the region during the past two decades, yet there are a significant number of people living below the poverty line. In the present context, even though South Asia is the second fastest growing region in the world, it faces major challenges in its efforts to reduce poverty, [12]. Therefore, definitive empirical answers to the question of whether trade liberalisation reduces poverty in the South Asian region have proved elusive [19].

**Figure 3** indicates the income inequalities prevailing within the South Asian economies. All the South Asian countries seem to have a relatively high income inequality. In almost all of these countries, about 40% of the income is enjoyed by the 20% richest and 20% poorest enjoyed less than 10% of the total income. When considering the Sri Lankan scenario, although a low poverty headcount ratio is recorded, the country seems to be suffering from income inequality.

Although it is commonly believed that trade liberalisation results in higher GDP, little is known about its effects on poverty and inequality. Given the importance of the subject and the wide divergence of opinions, it is not surprising that numerous studies have attempted to



**Figure 3.** Income inequalities in South Asia: 2012. Source: World Bank, World Development Indicators Database, 2014.

quantify these effects, as in [20, 21]. It was noted that several single country Computable General Equilibrium (CGE) models were used for poverty and income distribution analysis in South Asian economies [17, 22–24]. However, none of these studies attempted to formulate a regional model of South Asia except in [25], where a scholar used GTAP version 6, which reflects the world economy in 2001. When we consider the previous studies undertaken to assess the welfare implications of the SAFTA, it can be seen that most omitted addressing the question of how the SAFTA may affect broader socio-economic variables in the region, particularly with regard to income distribution and poverty in a multi-country CGE framework. This is a major trade policy concerned with reference to South Asia, since it is the second largest region in the world experiencing poverty next to the Sub-Saharan Africa (**Figure 1**).

With this backdrop, this chapter examines the implications of different trade liberalisation options on the member countries such as India, Pakistan, Bangladesh and Sri Lanka using a multi-country CGE model for South Asia. For instance, it considers whether forming the South Asian customs union against the rest of the world or unilateral liberalisation of South Asia's trade will bring wider impacts on welfare and income distribution, particularly in the Sri Lankan economy. The model incorporates some modifications to the household sector to capture the inter-household income changes under different trade liberalisation scenarios. It is equally important to examine the micro-economic impacts of trade reforms on poverty and income inequality. As Sri Lanka was the region's pioneer in introducing free market policies and transitioning its integration into the global economy, Sri Lanka is an ideal selection for undertaking an in-depth micro-analysis to investigate the impact of different trade reforms on poverty and income distribution among different socio-economic groups.

## 2. Theoretical model and data specifications

The Global Trade Analysis Project (GTAP) model is used to provide base to the South Asia multi-country computable general equilibrium model (SAMGEM). The household sectors in South Asia are disaggregated by this model through the extended representative agent (ERA)

approach in poverty analysis. Accordingly, the household sectors are disaggregated by income classifications in different geographical regions of India, Sri Lanka, Bangladesh and Pakistan. In addition, the model incorporates household survey data, thereby extending the framework to combine household groups, different industries and factor endowments. Since a multi-country framework provides a more complete structure in which to simulate the general impact of trade liberalization on a national economy in both the short-run and the long-run perspectives, this study gives preference to a multi-country framework over a single-country focus. These models are also more suitable for analysing the impacts of multilateral trade liberalisation, or the formation of customs union, etc., on a particular country as the model can link major trading partners with the rest of the world, [24]. Moreover, multi-country models provide a more realistic assessment in terms of the impacts of trade liberalisation.

The study uses the same data which were used in GTAP (version seven),<sup>1</sup> and those data are indicative of the global economy in 2004 (Narayanan and Walmsley [26]). These data are aggregated into 16 countries and regions, 30 sectors and 3 primary factors (**Table A.1**), for the purpose of constructing the SAMGEM. The household sector in India is divided into 24 household groups which include 12 rural groups and 12 urban groups; whereas in Sri Lanka, 30 household groups are considered, and they consist of 10 rural groups, 10 urban groups and 10 estate sector groups,<sup>2</sup> all of which are categorized according to income deciles and geographical regions [12]. When considering Pakistan, 10 household groups were identified, including 5 rural groups and 5 urban groups, grounded on income quintiles. The Bangladeshi household sector is disaggregated into 38 groups, consisting of 19 rural groups and 19 urban groups, based on monthly per capita consumer expenditure.

Sources used to gather additional data on household income and expenditure include the Central Bank of Sri Lanka (Consumer Finances and Socio-economic Survey (CFS) 2003/2004), the National Sample Survey Organization of India (Household Consumer Expenditure Survey in India, [29]), the Pakistan Bureau of Statistics (Household Income and Expenditure Survey 2004/2005) and the Bangladesh Bureau of Statistics (Household Income and Expenditure Survey 2004/2005). Data for 2003/2004 and 2004/2005 were used for consistency with the 2004 GTAP database. For each of the South Asian countries, commodity groups in the household survey data were matched and categorised under the 30 SAMGEM aggregated industries. Household income was proportionally allocated among the different factors within the model based on the proportions calculated from the household survey data of the respective South Asian economies and on the sources of income received by the households. The GTAP (version seven) database is used to obtain most of the elasticity values for the model. The income or expenditure elasticity values for different household groups were obtained from previous empirical estimates, as given in [28–31].

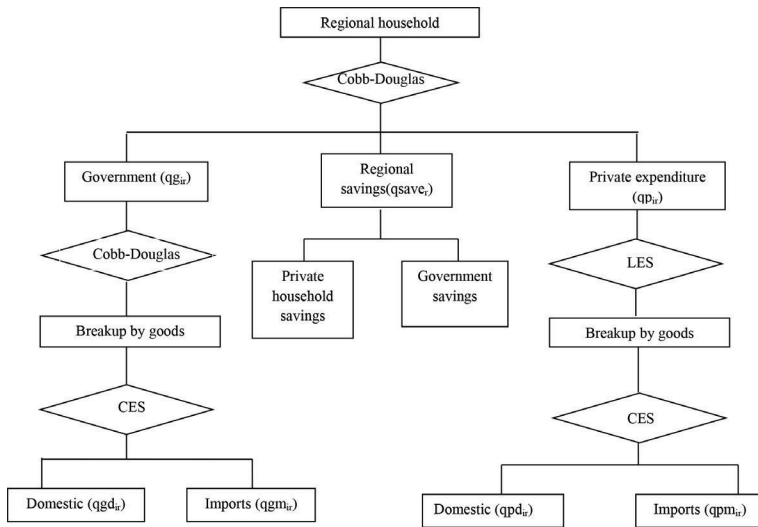
<sup>1</sup>GTAP version 7 was the latest available at the time of the construction of the SAMGEM database.

<sup>2</sup>The estate sector is considered to be part of the rural sector. Large plantations for growing tea, rubber and coconut were established in Sri Lanka during the British colonial period. These plantations are included in the estate sector, which comprises 5% of the total population of Sri Lanka [27].

## 2.1. Model

SAMGEM is based on the notion that the private households own the factors of production.<sup>3</sup> The structure of the regional household activities in SAMGEM is illustrated in **Figure 4**. Household income composed of labour income and capital income is allocated to savings and consumption using exogenous shares calculated from the household survey data for each country.<sup>4</sup> Labour income is defined as wages and salaries while capital income is profit from household investments and the income received from land and natural resources. Based on the initial supply of capital services, it is assumed that the households receive fixed proportions of sectoral capital income. Household supply of labour in each industry and the corresponding wage rates determine the labour income. It is expected that the household composition of sectoral labour income would change as labour moves between industries in response to trade liberalisation.

A linear expenditure system function is used to determine household consumption demand and hence highlights one of the key differences between the GTAP model and SAMGEM. Consumption in the GTAP model is determined using a constant difference elasticity function. On the contrary, the household consumption equations in SAMGEM follow the ORANI-G : A



**Figure 4.** Structure of consumer behaviour. *Note:* CES: constant elasticity of substitution; LES: linear expenditure system;  $qg_u$ : total quantity of goods consumed by Government (both domestic and imported);  $qsave_r$ : savings in real terms;  $qp_u$ : total quantity of goods consumed by private households (both domestic and imported);  $qgd_u$ : quantity of domestically produced goods consumed by Government;  $qgm_u$ : quantity of imported goods consumed by Government;  $qpd_u$ : quantity of domestically produced goods consumed by private households;  $qpm_u$ : quantity of imported goods consumed by private households.

<sup>3</sup>Factor markets in the model are assumed to be perfectly competitive.

<sup>4</sup>The proportions of household consumption data are calculated from the household surveys mentioned above and are matched to the Global Trade Analysis Project household consumption data.

General Equilibrium multi-household framework [32]. The Stone-Geary utility function or linear expenditure system function subject to the budget constraint (i.e. disposable income spent on consumption)<sup>5</sup> is maximized to determine the optimum allocation among the consumption of commodities by households, as stated in Ref. [33].

Regional governments intervene in their own markets by imposing taxes and subsidies. The revenue received from taxes, tariffs and transfers from households is allocated among consumption and government savings. Eight types of taxes and subsidies were specified in each country model: tariffs; export duties; production taxes and output subsidies; taxes on intermediate inputs; sales taxes imposed on consumer and public goods; factor taxes and income taxes. All of the equations related to production, investment, transportation and trade in SAMGEM are based on the standard GTAP model.

## 2.2. Policy simulations and model closure

The three policy simulations are analysed in both short-run and long-run frameworks. Three factors of production such as capital; skilled labour and unskilled labour are distinguished in the model. The factors are considered to be perfectly mobile across sectors. Labour is immobile across international borders, whereas capital is traded internationally up to the point of real return equalization.

### 2.2.1. Simulation 1: South Asian Free Trade Area (SAFTA)

This simulation considers the full implementation of the SAFTA, where all the SAARC countries eliminate tariffs on all products among members, while maintaining their existing tariff barriers with the rest of the world.

### 2.2.2. Simulation 2: South Asian Customs Union (SACU)

From the preceding studies on the trade reforms in South Asia, it was evident that attempts have been made to quantify the gains from customs union scenario in South Asia. In Ref. [34], the author estimated the static effects of a hypothetical customs union in South Asia, with the post-union common external tariff rate equal to the lowest pre-union tariff rate. On the other hand, in [35] it was analysed the static welfare effects of forming a customs union in South Asia with the common external tariff equal to the weighted average tariff rates of all country averages. Following Rahman et al., this simulation considers the SAFTA plus a 13% uniform external tariff rate to non-members. In selecting a common external tariff rate of 13% for non-members, the weighted average import tariff rate has been taken, as in [36]. In applying the common external tariff, 30 sectors have been divided into two groups, traded commodities and non-traded commodities.<sup>6</sup> Thus, the common external tariff rate is applied only to traded commodities.

<sup>5</sup>The linear expenditure system, introduced by Stone (1954), incorporates subsistence consumption and is therefore more appropriate for issues related to income distribution and poverty. 'Linear expenditure systems and demand analysis: an application to the pattern of British demand'.

<sup>6</sup>Non-traded commodities include the industries in the services sector such as CMN\_ROS, OSG\_DWE, TRD\_CNS and ELY\_WTR



### 2.2.3. Simulation 3: unilateral trade liberalisation

This simulation considers the possibility of all South Asian countries unilaterally removing all their tariffs against all countries in the world, while the rest of the world retains tariffs against South Asia.

### 2.2.4. Model closure

These closure rules define the equilibrium conditions in the markets included in the model and determine the expected time period of the solution. In the short-run, it is assumed that trade balance is fixed with real consumption, investment and government spending moving together to accommodate it [37]. The South Asian countries are endowed with an excess supply of especially unskilled labour which can be drawn on by industries in the event of increased production of export-oriented industries due to trade liberalisation. Hence, in South Asia and the rest of the world, employment is allowed to change in the short-run as firms can employ more labour while the real price of labour is fixed. On the other hand, in the capital market the capital stock in each sector is held fixed, with real rates of returns to capital adjusting endogenously. The same applies for land and natural resources, which are included under capital in the model.

In the long-run, labour supply is assumed to be fixed, despite the fact that capital stock is allowed to vary. This reflects that capital can adjust over time with the natural rate of unemployment. Under this scenario, the real price of labour is allowed to vary while the real price of capital remains fixed. In addition, the trade balance, real consumption, government consumption and investments become endogenous in the model. Furthermore, both in the short-run and long-run, production technologies, the number of households, all policy variables (taxes and subsidies) and shift variables in household consumption are assumed to be exogenous. As the model can only be solved for  $(n - 1)$  prices, one price is set exogenously, and all other prices are evaluated relative to this numeraire, as stated in [38]. Hence, the global average rate of return to primary factors is used as the numeraire, as in the standard GTAP model.

## 3. Analysis of modelling results

### 3.1. Impact on macroeconomic variables

As tariff reform affects all sectors in the economy, to keep the analysis concise, it is imperative to select the most significant sectors and variables to be examined under each policy option. When analysing the macroeconomic results, it is important to identify the implications on key variables such as the real GDP, aggregate employment, real factor prices, consumer price index, and terms of trade, trade volumes and per capita household utility in the economy. **Table 1** illustrates the projected macroeconomic results under different policy simulations. The interpretation of macroeconomic results begins with short-run effects.

It is noted that the gains in GDP are higher with the unilateral trade liberalisation followed by the customs union and the SAFTA zero tariff agreement with the exception in Sri Lanka where



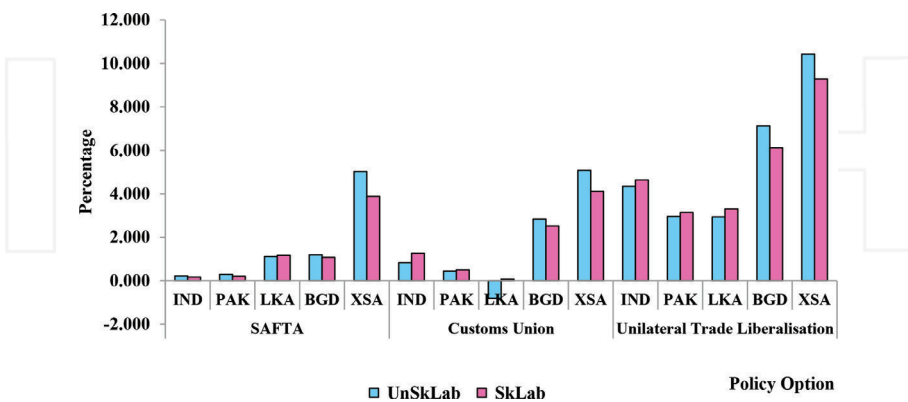
Macroeconomic variable	Change in real GDP (%)		Change in terms of trade (TOT) (%)		Change in volume of exports (%)		Change in volume of imports (%)		Change in trade balance (US Million)		Change in per capita utility (%)		Change real wages (unskilled) (%)		Change real wage rate (skilled) (%)		Change real rental rate (%)	
Region	SR	LR	SR	LR	SR	LR	SR	LR	SR	LR	SR	LR	SR	LR	SR	LR	SR	LR
<b>SAFTA</b>																		
India	0.13	0.18	0.26	0.28	1.04	0.95	1.07	1.18	0.00	-215.97	0.20	0.23	0.00	0.27	0.00	0.18	0.19	0.00
Pakistan	0.19	0.29	0.18	0.19	1.71	1.68	1.16	1.45	0.00	-83.62	0.26	0.35	0.00	0.46	0.00	0.36	0.33	0.00
Sri Lanka	0.76	1.58	0.06	-0.21	6.42	8.01	4.97	6.70	0.00	-71.12	0.85	1.39	0.00	1.83	0.00	1.91	1.37	0.00
Bangladesh	0.86	0.71	-1.10	-0.91	8.07	6.85	5.68	5.56	0.00	-94.93	0.68	0.48	0.00	0.98	0.00	0.92	0.87	0.00
Rest of South Asia	2.93	2.46	-0.70	-0.94	10.85	13.72	5.18	3.74	0.00	154.74	3.03	2.05	0.00	3.48	0.00	2.63	3.47	0.00
<b>Customs union</b>																		
India	1.02	1.06	-0.29	-0.55	3.92	4.93	3.21	2.52	0.00	1923.69	1.06	0.97	0.00	0.80	0.00	1.05	0.82	0.00
Pakistan	0.58	0.93	-0.22	-0.36	3.55	4.26	2.17	2.68	0.00	-21.51	0.56	0.83	0.00	0.84	0.00	0.83	0.72	0.00
Sri Lanka	0.14	-1.44	1.19	1.11	-2.80	-2.40	-2.15	-6.20	0.00	431.24	0.71	-0.79	0.00	-2.45	0.00	-2.05	-1.37	0.00
Bangladesh	2.46	2.49	-2.46	-2.31	14.97	14.20	12.22	12.18	0.00	-77.91	2.14	1.92	0.00	2.61	0.00	2.35	2.54	0.00
Rest of South Asia	3.16	2.74	-1.11	-1.38	9.02	11.98	4.63	3.11	0.00	168.26	3.05	2.10	0.00	3.55	0.00	2.84	3.60	0.00
<b>Unilateral trade liberalisation</b>																		
India	3.11	3.99	-4.28	-3.18	24.76	19.11	16.76	20.21	0.00	-9120.21	2.47	3.18	0.00	5.41	0.00	4.75	3.72	0.00
Pakistan	2.77	4.59	-3.84	-3.08	22.24	18.88	11.26	17.87	0.00	-2226.96	1.44	3.29	0.00	6.16	0.00	6.09	4.19	0.00
Sri Lanka	1.99	4.07	-1.75	-2.12	15.17	17.43	10.47	15.37	0.00	-342.75	1.12	2.65	0.00	4.95	0.00	5.46	3.41	0.00
Bangladesh	5.17	5.23	-6.04	-4.94	41.76	34.48	29.25	30.00	0.00	-766.49	4.22	3.88	0.00	6.57	0.00	5.82	5.90	0.00
Rest of South Asia	6.18	6.12	-3.78	-4.27	21.83	27.99	9.87	8.16	0.00	252.72	4.88	3.72	0.00	7.98	0.00	6.95	8.12	0.00

Source: Simulation results derived from the SAMGEM.  
 Note: SR = Short-run effects LR = Long-run effects.

**Table 1.** Projected macroeconomic results under different policy experiments.

GDP increases only marginally under the customs union. Moreover, the short-run gains in GDP are higher for least economies in the region (Bangladesh and Rest of South Asia). For instance, under the SAFTA, the real GDP in India increases by 0.13%, whereas in the rest of South Asia the same will increase by 2.93%. On the other hand, under the unilateral trade liberalisation gain in GDP for India is 3.11%, whereas for the rest of the South Asia GDP increases by 6.18%. This is because, apart from the least developed countries in the region, these economies have high pre-liberalisation levels of protection against imports in comparison to India, Pakistan and Sri Lanka [12]. Hence, the findings of the present study are consistent with those who hold the moderate view about the SAFTA that preferential trading agreement (PTA) would bring benefits to all countries in the region, and moving to unilateral trade liberalisation would bring significant gains to South Asia. The long-run projections in real GDP stipulate that the gains for all the South Asian economies are generally higher in comparison to the short-run under all three policies except for Sri Lanka under the customs union, in which case the real GDP declines by 1.44%. Hence, these results demonstrate the widely held notion of growth stimulation effects of trade liberalisation as established in the literature in [39].

The results suggest that employment will increase in all the South Asian countries under the three trade policy options, with the exception of Sri Lanka where unskilled labour employment will decline under the customs union scenario (**Figure 5**). Given the marginal increase in GDP, it may lead to increase in unemployment, particularly in unskilled labour in Sri Lanka during the short-run period after implementing this trade policy option. This shows that, if Sri Lanka were to maintain a common external tariff of 13%, it will imply increased protection, particularly in the manufacturing sector, which will cause negative impacts on GDP and employment. In addition, it is noted that employment will increase substantially under the unilateral trade liberalisation in all the South Asian countries and this result is consistent with changes in real GDP in respective economies. Furthermore, it is obvious that more employment opportunities will be created for the least developed economies in the region (Bangladesh and Rest of South



**Figure 5.** Changes in employment under different policy experiments in the short-run. Source: Simulation results derived from the SAMGEM.

Asia) under all three trade policy options due to the expansion of labour-intensive industries in the short-run.

The economic interpretation of the increase in employment compared to real GDP lies in the assumption of fixed usage of capital and land in the short-run. When the capital and land are fixed, an increased use of labour causes the marginal product of labour to decline. It is important to note that, with perfect competition, real wage rate is equivalent to marginal product of labour and the real rental rate is equivalent to the marginal product of capital [40]. Since real wages are fixed in the short-run, to achieve a certain percentage increase in output, industries must increase labour inputs by a higher percentage than output increase. For instance, in India under the SAFTA, although the real GDP increases by 0.13%, unskilled and skilled labour employment is increased by 0.22 and 0.17%, respectively. The same tendency is observed in all South Asian countries under all trade policy options in the short-run.

Another important factor that affects change in real GDP is return on capital in the short-run. From **Table 1**, one can see that all the South Asian economies under different trade policy options, except Sri Lanka under the customs union, have a positive impact on the real rental rate. For Sri Lanka, the negative result occurred due to contraction in the manufacturing sector. The positive impacts on the others arise in the short-run, when a given capital stock is co-operating with more labour inputs leading to an increase in the rental rate of capital, as in [41]. Since there is a decline in consumer price index (CPI) under this trade policy option, it will eventually result in a rise in the real rental rate. **Table 2** illustrates the percentage change in the capital stock in the long-run under the different trade policy scenarios.

In analysing the causes for change in the real GDP in the long-run, it is important to note that the economic activity in all the South Asian economies (apart from Sri Lanka, under the customs union) becomes significantly higher as a result of greater reduction in overall prices due to tariff cuts under different trade policy options (**Table 3**). This is because lower prices of imports lead to a fall in CPI largely in the long-run (except in India and Pakistan under the SAFTA) which causes to change the pattern of domestic production and consequently these effects can influence the income and expenditure sides components of the real GDP. In addition, India and Pakistan are the two largest economies in the region and an increase in CPI in

Country/Region	Trade policy options		
	SAFTA	Customs union	Unilateral trade liberalisation
India	0.26	0.89	5.14
Pakistan	0.41	1.03	5.56
Sri Lanka	2.15	-2.77	5.43
Bangladesh	0.87	2.85	6.84
Rest of South Asia	4.12	4.35	10.56

Source: Simulation results derived from the SAMGEM.

**Table 2.** Percentage change in capital stock in the long-run.

Country/Region	SAFTA		Customs union		Unilateral trade liberalisation	
	SR	LR	SR	LR	SR	LR
India	0.26	0.29	-0.74	-1.01	-4.16	-2.94
Pakistan	0.17	0.20	-0.45	-0.55	-4.08	-3.19
Sri Lanka	-0.35	-0.56	-1.43	-1.67	-3.36	-3.44
Bangladesh	-0.89	-0.74	-1.89	-1.93	-4.93	-4.02
Rest of South Asia	-1.22	-1.35	-1.69	-1.90	-6.12	-6.18

Source: Simulation results derived from SAMGEM.

Note: SR: Short-run effects. LR: Long-run effects.

**Table 3.** Percentage change in consumer price index.

these economies may be due to an increase in demand for domestically produced goods by their domestic counterparts and the other South Asian economies.

Also, there is a greater reduction in CPI in all the countries under the customs union and unilateral trade liberalisation, as these economies import significant amounts of intermediate goods, electronic and machinery and equipment from other countries outside the region. It is worthwhile noting that, especially under unilateral trade liberalisation, the large amounts of imports cause a substantial decline in CPI in comparison to other two trade policy options.

The terms of trade (TOT) effect also provides an important measurement as to how well each country could play its role in the international market due to trade reforms. It is also considered an important component in welfare gains. The percentage changes in TOT reflect changes in export and import prices due to change in trade in each country. **Table 1** indicates that, in comparison to the other policy options, under the unilateral trade liberalisation scenario, TOT deteriorates in all countries in South Asia. In Ref. [42], the author pointed out that, due to trade liberalisation, the relative price of exports to imports can decrease more in small countries than in large countries, resulting in a large deterioration in the terms of trade. Since South Asia is a small player in the world economy, TOT deteriorates largely under the unilateral trade liberalisation. In [6], the author noted that when the countries in the region liberalise their trade regimes, imports into the region, especially manufacturing goods from their trading partners, will increase. Consequently, these countries need to export more of their own products to finance their import bills. Accordingly, this would result in a reduction in their export prices and deterioration in TOT in the South Asian countries under the unilateral trade liberalisation.

### 3.2. Impact on household income

The impact of different trade policy options at the household level can be determined from the results generated from the SAMGEM, whereas the effects on poverty and income inequality pertaining to Sri Lankan households can be ascertained from income distribution models, which will be explained in Section 4. **Figures A.1–A.13** in Appendix display the percentage

change in real household income in South Asian economies under different trade policy options. The results indicate that overall household income will increase in all South Asian countries in response to trade liberalisation (again except in Sri Lanka under the customs union). Poor households gain from increased unskilled labour income while richer households gain more from capital and skilled labour. However, it is likely that trade liberalisation would lead to reductions in the flow of government transfers to all household groups, and this reduction is greater in rural households as they rely more on government transfers.

### 3.3. Impact on welfare

Equivalent variation (EV) is used to determine the overall level of welfare under each policy option. EV is an absolute monetary measure of welfare improvement in terms of income that results from the fall in import prices when tariffs are reduced or eliminated, as in Ref. [43]. **Table 4** illustrates the overall level of welfare as an absolute value in terms of US\$ millions. Although India gains significantly under all three trade liberalisation scenarios in absolute terms, it is clear that the smaller economies (Bangladesh and the rest of South Asia) benefit more than the larger economies in the region under the same trade policy option in relative terms. Moreover, all the South Asian countries gain substantially under the unilateral trade liberalisation, followed by the customs union (with the exception of Sri Lanka) and the SAFTA.

It is also clear that Bangladesh and the rest of South Asia gain less in the long-run compared to the short-run under all three policy options. This is consistent with the percentage change in real GDP in these countries as noted in **Table 1**. Many scholars who analysed South Asia's trade liberalisation have generated debate over the desirability of the SAFTA with differing viewpoints. The present study holds a moderate view of the SAFTA and is in agreement with the findings in [5]. The findings reveal that the SAFTA still ensures considerable benefits for small countries in the region, although there are less potential gains from SAFTA than of unilateral trade liberalisation. The results of the present study are also consistent with the studies undertaken by United Nations Conference on Trade and Development and with [44, 45]

	SAFTA		Customs union		Unilateral trade liberalisation	
	US\$ millions					
	SR	LR	SR	LR	SR	LR
India	1146.58	1344.94	6217.29	5661.53	14488.29	18675.71
Pakistan	226.94	302.79	482.87	717.90	1248.95	2856.99
Sri Lanka	152.44	247.89	126.58	−141.24	199.67	472.44
Bangladesh	344.99	241.72	1084.18	975.87	2144.32	1970.68
Rest of South Asia	386.16	261.35	388.88	267.71	621.93	474.18

Source: Simulation results derived from SAMGEM.

Note: SR: Short-run effects LR: Long-run effects.

**Table 4.** Projected equivalent variations under different trade policy options.

as these studies suggest that the SAFTA would create some welfare gains for its member countries and smaller economies would gain more from the PTA than the larger economies in the region.

4. The impact of trade liberalisation on poverty and income inequality in Sri Lanka

This section aims to contribute to the on-going debate on the trade-poverty nexus by investigating the income inequality and poverty impacts of two trade liberalisation policies which were favourable to Sri Lanka (the SAFTA and unilateral trade liberalisation), especially on different household groups in the urban, rural and estate sectors. Unlike most of the other South Asian economies, Sri Lanka executed a series of unilateral tariff reductions and significantly reduced non-tariff barriers during the period 1977–2000 [46]. However, Sri Lanka’s trade policies have become more restrictive as economic conditions deteriorated following the Tamil Tiger attack on Colombo airport in July 2001 [47]. As noted in Ref. [48], the average level of nominal protection increased from around 12% in 2001–2002 to almost 30% in 2008–2010. Hence, there has been a major reversal of the liberal trade policies of the previous 24 years, and from late 2004 there has been a deliberate move back to import-substitution protectionism in both the agricultural and manufacturing sectors.

4.1. Income inequality in Sri Lanka

In the Sri Lankan case, Lorenz curves are estimated at the national level as well as for the different sectors (urban, rural and estate) by using the CFS 2003–2004 household survey data. S-Gini coefficients are also calculated for different sectors and different household groups to determine the extent to which trade liberalisation helps to reduce inequality between different groups in different sectors. Figure 6 illustrates the estimated Lorenz curves for Sri Lanka at the national level and for the different sectors.

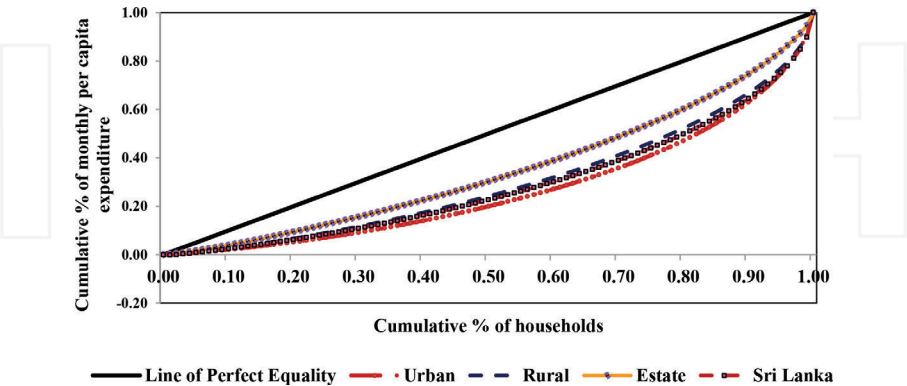


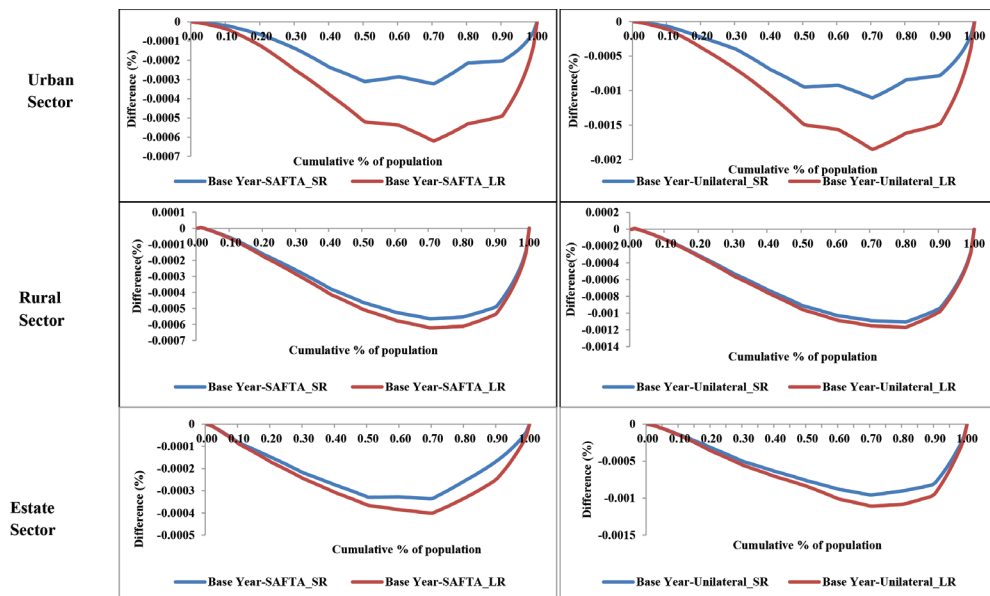
Figure 6. Base year Lorenz curves for Sri Lanka. Source: Author’s estimations from the distributive analysis (DAD) Programme [11].

When comparing the urban, rural and estate sectors and each of its Lorenz curves, it is clear that the urban sector Lorenz curve dominates the rural sector, which in turn dominates the estate sector Lorenz curve. Hence, it is evident that inequality is highest in the urban sector and lowest in the estate sector. Further, the figure shows that the rural sector lies in between.

Given these base year scenarios, it is an interesting exercise to determine whether the SAFTA and unilateral trade liberalisation would reduce inequality in different sectors in Sri Lanka. In Ref. [49], the authors explained that when the gap between two Lorenz curves is marginal, it is appropriate to estimate the difference between two Lorenz curves. The differences (i.e. the difference between base year and after trade liberalisation) between Lorenz curves under the SAFTA and unilateral trade liberalisation in the short-run and in the long-run in the urban, rural and estate sectors are plotted in **Figure 7**.

The horizontal axis of each graph represents the household deciles while the vertical axis shows the difference between the base year and the post-trade liberalisation income distributions. Note that the curves under the SAFTA and unilateral trade liberalisation exhibit a U shape, indicating a reduction in inequality, with a greater reduction in the long-run than in the short-run under both policy options. Moreover, the reduction is more pronounced under unilateral trade liberalisation than under the SAFTA in all three Sri Lankan sectors.

The complete pattern of income distribution can be analysed using the Lorenz curve. Nevertheless, the S-Gini index is the most commonly applied inequality measure, probably because of its link to the Lorenz curve which provides an intuitive and graphical representation of



**Figure 7.** Difference between Lorenz curves under different trade policy options. Source: Author's estimations from the distributive analysis (DAD) Programme [11].



inequality, [50]. **Table 5** illustrates the Gini coefficients for Sri Lanka at the national level based on the monthly per capita expenditure for different survey periods.

The Gini index was 0.41 in 2002 and increased to 0.43 in 2003–2004. Two reasons can be identified for the inequality rise. One may be the Tsunami that hit Asia, creating a devastating experience to most of the Asian economies. This natural disaster increased the vulnerability of coastal communities in Sri Lanka. The other reason is the political unrest associated with the civil war which prevailed for almost three entire decades. These two major incidents adversely affected different socio-economic groups in Sri Lanka, thereby raising inequality. However, by 2009–2010, inequality had fallen as a result of the improved political and economic stability in the country. The extent of the income inequalities among different household groups for the urban, rural and estate sectors in Sri Lanka under the base year, the SAFTA and unilateral trade liberalisation are given by the S-Gini coefficients in **Tables 6–8**.

The base year S-Gini coefficients of the urban, rural and estate sectors’ households based on the per capita expenditure are recorded as 0.4659, 0.4040 and 0.2991, respectively. Thus, indicating that the income disparity between households is highest in the urban sector and lowest in the estate sector. This shows that there is a greater homogeneous consumption pattern among households in the estate sector than the other two sectors.

When examining the overall inequality in all the three sectors; urban, rural and estate sector, the values have decreased under both liberalisation policies, this has occurred in both the short- and the long-run. The estimated S-Gini coefficients for household groups in all three sectors reveal that there are reductions in inequality under the two trade policies. Hence, it is clear that trade liberalisation has a positive impact on income disparity among household groups with lower inequality in the estate sector than in the urban and rural sectors in Sri Lanka. The low standard deviation values reported in the parentheses indicate that all the calculated S-Gini-coefficients are significant at 5% significance level (95% confidence limit).

#### 4.2. Non-parametric estimation of poverty in Sri Lanka

Poverty indicators are estimated for the base year and post-liberalisation scenarios for different household groups in the urban, rural and estate sectors in Sri Lanka using the Foster-Greer-Thorbecke (FGT) index. The most commonly used indicator of poverty is the poverty head-count ratio ( $\alpha = 0$ ) [51]. This indicator signifies the proportion of the population earning income less than or equal to the poverty line income level. Other useful poverty

	Survey period				
	2002	2003/04*	2005	2006/07	2009/10
Gini coefficient of household expenditure at national level	0.41	0.43	0.40	0.41	0.37

Source: Household Income and Expenditure Survey Reports, Various Issues, Department of Census and Statistics, Sri Lanka [27].  
 Note: \*Author’s estimation from the CFS 2003–2004 [49].

**Table 5.** Gini-coefficient of household expenditure for Sri Lanka.

Group	Expenditure share by household group (%)	S-Gini coefficient				
		Base year	SAFTA	Unilateral trade liberalisation		
				Short-run	Long-run	
Total	100	0.4659 (0.0134)	0.4655 (0.0135)	0.4652 (0.0134)	0.4646 (0.013)	0.4638 (0.0135)
Between groups		0.4525 (0.0135)	0.4522 (0.0137)	0.4518 (0.0133)	0.4513 (0.0136)	0.4505 (0.0134)
S-Gini by household groups						
Decile 1	2.12	0.1227 (0.008)	0.1226 (0.009)	0.1225 (0.008)	0.1225 (0.008)	0.1224 (0.008)
Decile 2	3.12	0.0436 (0.001)	0.0435 (0.002)	0.0434 (0.001)	0.0434 (0.002)	0.0433 (0.0015)
Decile 3	3.95	0.0321 (0.001)	0.0320 (0.002)	0.0320 (0.001)	0.0320 (0.001)	0.0321 (0.0012)
Decile 4	4.84	0.0340 (0.001)	0.0339 (0.001)	0.0339 (0.003)	0.0339 (0.001)	0.0339 (0.0013)
Decile 5	5.89	0.0321 (0.001)	0.0320 (0.001)	0.0320 (0.001)	0.0320 (0.001)	0.0320 (0.0011)
Decile 6	7.16	0.0332 (0.001)	0.0331 (0.001)	0.0331 (0.001)	0.0331 (0.001)	0.0330 (0.0011)
Decile 7	8.69	0.0383 (0.004)	0.0382 (0.002)	0.0382 (0.001)	0.0382 (0.001)	0.0381 (0.0014)
Decile 8	11.28	0.0491 (0.002)	0.0490 (0.002)	0.0490 (0.002)	0.0490 (0.001)	0.0490 (0.0018)
Decile 9	15.78	0.0679 (0.003)	0.0678 (0.003)	0.0678 (0.003)	0.0678 (0.002)	0.0677 (0.0029)
Decile 10	37.17	0.2738 (0.032)	0.2737 (0.033)	0.2736 (0.032)	0.2736 (0.032)	0.2735 (0.0321)

Source: Author's estimations from the Distributive Analysis (DAD) Programme.  
 Note: The respective standard errors are reported in parenthesis at 95% confidence limit [49].

**Table 6.** Decomposition of inequality by household group using the S-Gini index: urban sector.

measures can be estimated such as the poverty gap ( $\alpha = 1$ ) which measures the extent to which individuals fall below the poverty line and poverty severity ( $\alpha = 2$ ) which averages the squares of the poverty gaps relative to the poverty line.

**Figure 8** illustrates the base year Kernel Density Functions of per capita expenditure for the urban, rural and estate sector household groups in Sri Lanka. The vertical axis presents an estimate of the probability density at a value of  $x$  (monthly per capita expenditure). The vertical line is the poverty line in each sector in the base year.

Group	Expenditure share by household group (%)	S-Gini coefficient				
		Base year	SAFTA	Unilateral trade liberalisation		
				Short-run	Long-run	
Total	100	0.4040 (0.0070)	0.4033 (0.0070)	0.4032 (0.0071)	0.4026 (0.0073)	0.4025 (0.0072)
Between groups		0.3911 (0.0061)	0.3904 (0.0062)	0.3904 (0.0061)	0.3898 (0.0067)	0.3897 (0.0066)
<b>S-Gini by household groups</b>						
Decile 1	2.60	0.2584 (0.0672)	0.2583 (0.0672)	0.2582 (0.0672)	0.2581 (0.0672)	0.2580 (0.0673)
Decile 2	4.12	0.0363 (0.0005)	0.0363 (0.0005)	0.0363 (0.0005)	0.0362 (0.0056)	0.0361 (0.0005)
Decile 3	4.96	0.0276 (0.0004)	0.0275 (0.0004)	0.0275 (0.0004)	0.0274 (0.0004)	0.0273 (0.0004)
Decile 4	5.81	0.0247 (0.0003)	0.0246 (0.0003)	0.0246 (0.0003)	0.0245 (0.0003)	0.0244 (0.0003)
Decile 5	6.71	0.0245 (0.0003)	0.0244 (0.0003)	0.0244 (0.0003)	0.0243 (0.0003)	0.0242 (0.0003)
Decile 6	7.81	0.0264 (0.0004)	0.0263 (0.0003)	0.0263 (0.0004)	0.0262 (0.0004)	0.0262 (0.0003)
Decile 7	9.17	0.0283 (0.0004)	0.0283 (0.0004)	0.0283 (0.0004)	0.0283 (0.0004)	0.0282 (0.0004)
Decile 8	11.10	0.0365 (0.0005)	0.0365 (0.0005)	0.0364 (0.0005)	0.0363 (0.0005)	0.0363 (0.0005)
Decile 9	14.58	0.0560 (0.0009)	0.0559 (0.0008)	0.0558 (0.0008)	0.0557 (0.0008)	0.0557 (0.0008)
Decile 10	33.14	0.3025 (0.0178)	0.3026 (0.0178)	0.3025 (0.0178)	0.3024 (0.0178)	0.3024 (0.0178)

Source: Author's estimations from the Distributive Analysis (DAD) Programme.  
Note: The respective standard errors are reported in parenthesis at 95% confidence limit [49].

**Table 7.** Decomposition of inequality by household group using the S-Gini index: rural sector.

In using the Kernel method, the poverty headcount ratio is calculated by taking the sum of the estimated densities until the poverty line of income (per capita expenditure) level is reached [52]. The estimated density functions in **Figure 8** indicate that the urban sector has the smallest proportion of households living below the poverty line with the highest proportion in the estate sector.

The changes in the monetary poverty lines are taken into consideration in calculating the FGT indices for the different trade policy scenarios. **Table 9** below displays the percentage changes

Group	Expenditure share by household group (%)	S-Gini coefficient				
		Base year	SAFTA	Unilateral trade liberalisation		
				Short-run	Long-run	
<b>Total</b>	<b>100</b>	<b>0.2991</b> <b>(0.0134)</b>	<b>0.2986</b> <b>(0.0134)</b>	<b>0.2985</b> <b>(0.0134)</b>	<b>0.2980</b> <b>(0.0134)</b>	<b>0.2978</b> <b>(0.0134)</b>
<b>Between Groups</b>		<b>0.2915</b> <b>(0.0135)</b>	<b>0.2912</b> <b>(0.0136)</b>	<b>0.2911</b> <b>(0.0135)</b>	<b>0.2905</b> <b>(0.0136)</b>	<b>0.2904</b> <b>(0.0135)</b>
<b>S-Gini by household groups</b>						
Decile 1	4.02	0.1054 (0.0209)	0.1053 (0.0209)	0.1052 (0.0209)	0.1051 (0.0209)	0.1050 (0.0209)
Decile 2	5.44	0.0279 (0.0014)	0.0279 (0.0014)	0.0279 (0.0014)	0.0279 (0.0014)	0.0279 (0.0014)
Decile 3	6.16	0.0188 (0.0011)	0.0188 (0.0011)	0.0188 (0.0011)	0.0188 (0.0011)	0.0188 (0.0011)
Decile 4	6.94	0.0166 (0.0009)	0.0166 (0.0009)	0.0166 (0.0009)	0.0166 (0.0009)	0.0166 (0.0009)
Decile 5	7.60	0.0220 (0.0011)	0.0220 (0.0011)	0.0220 (0.0011)	0.0220 (0.0011)	0.0220 (0.0011)
Decile 6	8.53	0.0188 (0.0011)	0.0188 (0.0011)	0.0188 (0.0011)	0.0188 (0.0011)	0.0188 (0.0011)
Decile 7	9.75	0.0272 (0.0015)	0.0272 (0.0015)	0.0272 (0.0015)	0.0272 (0.0015)	0.0272 (0.0015)
Decile 8	11.31	0.0263 (0.0017)	0.0263 (0.0017)	0.0263 (0.0017)	0.0262 (0.0017)	0.0262 (0.0017)
Decile 9	14.12	0.0399 (0.0027)	0.0399 (0.0027)	0.0399 (0.0027)	0.0398 (0.0027)	0.0398 (0.0027)
Decile 10	26.13	0.1923 (0.0305)	0.1923 (0.0305)	0.1923 (0.0305)	0.1923 (0.0305)	0.1923 (0.0305)

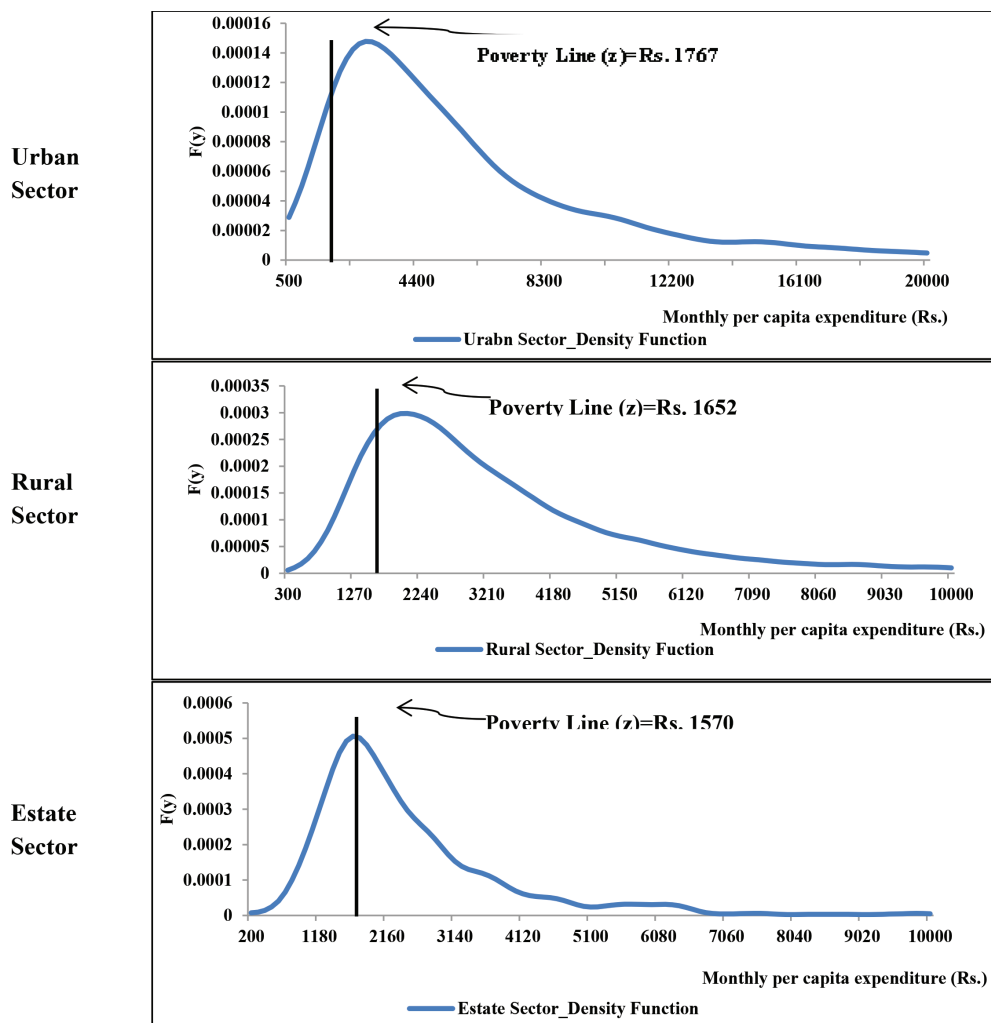
Source: Author's estimations from the Distributive Analysis (DAD) Programme.

Note: The respective standard errors are reported in parenthesis at 95% confidence limit [49].

**Table 8.** Decomposition of inequality by household group using the S-Gini index: estate sector.

in the average poverty lines related to the SAFTA and unilateral trade liberalization for urban, rural and estate sectors.

There is a decline in the percentage change in poverty line for all the three sectors under both trade liberalisation options, although the magnitude of the decrease is higher in the long-run. Furthermore, the reductions are larger under unilateral trade liberalisation due to the non-discriminatory nature of the policy. When considering prices of a basic commodity bundle, the reduction in prices of this bundle is larger in the rural and estate sectors than the urban sector



**Figure 8.** Density function: base year 2003–2004. Source: Author's estimations from the Distributive Analysis (DAD) Programme [49].

households. This could be due to composition of food items in the commodity bundles of rural and estate sectors. With the removal of tariffs under the two trade policy options, the prices of the basic goods are cheaper in comparison to manufacturing and industrial goods. The estimated values of per capita expenditure and the new prices generated under the trade policy options were used in calculating FGT indices to ascertain the post-simulation poverty profiles in each of the sectors. The FGT poverty indices were calculated for different household groups in all three sectors and are presented in **Tables 10–12**. All three indices (i) the poverty headcount ratio ( $\alpha_0$ ), (ii) the poverty gap ( $\alpha_1$ ) and (iii) poverty severity ( $\alpha_2$ ) make it clear that

Sector	SAFTA		Unilateral trade liberalisation	
	Short-run	Long-run	Short-run	Long-run
Urban	−0.337	−0.560	−3.339	−3.467
Rural	−0.639	−1.062	−3.982	−4.557
Estate	−0.690	−1.115	−4.203	−4.778

Source: Author's estimations from the DAD (Distributive Analysis) Programme [49].

**Table 9.** Percentage changes in poverty lines in different sectors in Sri Lanka.

poverty is higher in the estate sector than in the urban and rural sectors in Sri Lanka. This confirms the conclusions drawn from the Kernel density functions in **Figure 8**.

The decomposition of FGT indices based on different household groups in the urban sector (**Table 10**) indicates that only households belonging to the first decile fall below the poverty line in all cases. For instance, in the base year, 72.92% of the households in the first decile fall below the poverty line. In the short-run, this is reduced to 70.94% under the SAFTA and down to 50% with unilateral trade liberalisation.

Based on the FGT decomposition by household groups in the rural sector (**Table 11**), it is evident that all the households belonging to the first decile and 60.14% of the households in the second decile fall below the poverty line in the base year. Nevertheless, the second decile percentages fall considerably under both trade liberalisation policies with the largest reductions occurring under unilateral trade liberalisation.

The decomposition of FGT indices by household groups in the estate sector (**Table 12**) indicates that, in the base year, 100% of households in the first two deciles and 42.37% of the households in the third deciles fall below the poverty line. Under the SAFTA, there is a fall in poverty in households belonging to the third decile; though, under the unilateral trade liberalisation poverty in the third decile is eliminated. In all three sectors, the poverty reductions are greater in the long-run under the two trade policy options.

An examination of the base year (2003–2004) poverty profiles in Sri Lanka reveals that poverty in terms of headcount ratio ( $\alpha_0$ ) is the lowest in the urban sector and highest in the estate sector. The rural population consists of 82% of the total population and thus the highest numbers of poor persons are expected to be in the rural sector (Department of Census and Statistics 2006–2007). The overall conclusions of this study support that, there is a higher incidence of poverty in rural provinces (inclusive of the estate sector) and the rural sector of Western province in Sri Lanka.

The Sri Lankan economic growth was restricted to the urban manufacturing and services sectors after the trade liberalization in 1977. Moreover, this growth was predominantly limited to the Western province and the capital city. This kept the regional, agricultural households isolated from the growth process. Thus, the growth in consumption as well as income too had little or no growth at all in those remote areas. The Central Bank of Sri Lanka Annual Report (2004) indicated that the contribution to GDP originating from agriculture declined during the

Household group	Base year (z = Rs 1767)			SAFTA		Unilateral trade liberalisation											
	$\alpha = 0$ (%)	$\alpha = 1$ (%)	$\alpha = 2$ (%)	Short-run (z = Rs 1761)			Long-run (z = Rs 1757)			Short-run (z = Rs 1707)			Long-run (z = Rs 1705)				
Total	7.32 (0.006)	1.50 (0.001)	0.53 (0.000)	7.12 (0.006)	1.46 (0.002)	0.51 (0.000)	6.90 (0.006)	1.43 (0.001)	0.50 (0.000)	5.01 (0.005)	1.16 (0.001)	0.41 (0.000)	4.87 (0.005)	1.15 (0.001)	0.40 (0.000)		
Decile 1	72.92 (0.036)	15.01 (0.014)	5.30 (0.007)	70.94 (0.037)	14.62 (0.014)	5.16 (0.007)	69.59 (0.038)	14.31 (0.014)	5.08 (0.007)	50.00 (0.041)	11.60 (0.013)	4.10 (0.006)	48.64 (0.041)	11.49 (0.013)	4.06 (0.006)		
Decile 2	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)		
Decile 3	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)		
Decile 4	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)		
Decile 5	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)		
Decile 6	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)		
Decile 7	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)		
Decile 8	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)		
Decile 9	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)		
Decile 10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)		

Note: z = Poverty Line. The respective standard errors are reported in parenthesis at 95% confidence limit.  
Source: Author's estimations from the Distributive Analysis (DAD) Programme [49].

Table 10. FGT poverty indices under the base year and different trade policy options: urban sector.



Household group	Population share (%)	Unilateral trade liberalisation											
		SAFTA											
		Base year (z = Rs 1652)		Short-run (z = Rs 1641)		Long-run (z = Rs 1634)		Short-run (z = Rs 1586)		Long-run (z = Rs 1576)			
		$\alpha = 0$	$\alpha = 1$	$\alpha = 0$	$\alpha = 1$	$\alpha = 0$	$\alpha = 1$	$\alpha = 0$	$\alpha = 1$	$\alpha = 0$	$\alpha = 1$	$\alpha = 0$	$\alpha = 1$
Total	100.00	16.02 (0.003)	4.27 (0.003)	15.31 (0.004)	4.10 (0.003)	14.95 (0.003)	4.01 (0.003)	12.21 (0.003)	3.41 (0.003)	11.08 (0.003)	3.30 (0.003)	0.71 (0.003)	0.71 (0.003)
Decile 1	10	100 (0.000)	38.86 (0.033)	100 (0.000)	37.96 (0.033)	100 (0.000)	37.43 (0.033)	100 (0.000)	33.48 (0.036)	100 (0.000)	32.65 (0.036)	7.51 (0.002)	7.51 (0.002)
Decile 2	10	60.14 (0.015)	3.88 (0.001)	53.11 (0.016)	3.11 (0.001)	49.48 (0.017)	2.68 (0.001)	22.15 (0.013)	0.64 (0.000)	18.01 (0.012)	0.40 (0.000)	0.012 (0.000)	0.012 (0.000)
Decile 3	10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
Decile 4	10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
Decile 5	10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
Decile 6	10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
Decile 7	10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
Decile 8	10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
Decile 9	10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
Decile 10	10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)

Note: z = Poverty Line. The respective standard errors are reported in parenthesis at 95% confidence limit.  
Source: Author's estimations from the Distributive Analysis (DAD) Programme [49].

**Table 11.** FGT poverty indices under the base year and different trade policy options: rural sector.

Household group	Population share (%)	Base year (z = Rs 1570)	SAFTA						Unilateral trade liberalisation											
			Short-run (z = Rs 1560)			Long-run (z = Rs 1552)			Short-run (z = Rs 1504)			Long-run (z = Rs 1494)								
		$\alpha = 0$	$\alpha = 1$	$\alpha = 2$	$\alpha = 0$	$\alpha = 1$	$\alpha = 2$	$\alpha = 0$	$\alpha = 1$	$\alpha = 2$	$\alpha = 0$	$\alpha = 1$	$\alpha = 2$	$\alpha = 0$	$\alpha = 1$	$\alpha = 2$	$\alpha = 0$	$\alpha = 1$	$\alpha = 2$	
Total	100.00	24.20 (0.017)	4.93 (0.004)	1.65 (0.002)	23.36 (0.017)	4.66 (0.004)	1.56 (0.002)	23.02 (0.017)	4.48 (0.004)	1.50 (0.002)	17.31 (0.015)	3.44 (0.004)	1.17 (0.002)	16.30 (0.015)	3.27 (0.004)	1.11 (0.002)	16.30 (0.015)	3.27 (0.004)	1.11 (0.002)	
Decile 1	10	100 (0.00)	35.73 (0.018)	14.74 (0.019)	100 (0.00)	34.76 (0.018)	14.12 (0.019)	100 (0.00)	34.14 (0.018)	13.73 (0.019)	100 (0.00)	29.81 (0.019)	11.24 (0.019)	100 (0.00)	28.91 (0.020)	10.78 (0.019)	100 (0.00)	28.91 (0.020)	10.78 (0.019)	
Decile 2	10	100 (0.00)	12.09 (0.005)	1.64 (0.001)	100 (0.00)	10.85 (0.005)	1.36 (0.001)	100 (0.00)	9.98 (0.005)	1.18 (0.001)	100 (0.00)	72.88 (0.057)	4.44 (0.005)	100 (0.00)	62.71 (0.063)	3.59 (0.004)	100 (0.00)	62.71 (0.063)	3.59 (0.004)	
Decile 3	10	42.37 (0.064)	1.36 (0.002)	0.05 (0.000)	33.89 (0.061)	0.82 (0.002)	0.02 (0.000)	30.05 (0.059)	0.52 (0.001)	0.01 (0.000)	100 (0.00)	0.0 (0.00)	0.0 (0.00)	100 (0.00)	0.0 (0.00)	0.0 (0.00)	100 (0.00)	0.0 (0.00)	0.0 (0.00)	
Decile 4	10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	
Decile 5	10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	
Decile 6	10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	
Decile 7	10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	
Decile 8	10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	
Decile 9	10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	
Decile 10	10	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	

Note: z = Poverty Line. The respective standard errors are reported in parenthesis at 95% confidence limit.  
Source: Author's estimations from the DAD (Distributive Analysis) Programme [49].

**Table 12.** FGT poverty indices under the base year and different trade policy options: estate sector.

last two decades. Agriculture's contribution to GDP was just over 17%, the share of manufacturing had been steady at 27–28% leaving the service sector as the dominant sector, contributing approximately 54% to GDP. While examining the shares of employment in the three sectors; agriculture, industry and services it was revealed that agriculture accounts to 30.2%, and the other two 25 and 44.8, respectively in 2004. Comparing the output and the employment structures, data indicate that labour productivity is relatively low in agriculture where nearly one third of the workers are engaged in producing just one-sixth of the country's value added. If the poverty levels are to be reduced, agricultural productivity will be a must, especially in the rural and estate sectors in Sri Lanka. This becomes even more important when considering the fact that 90% of the poor live in the rural agricultural economy.

According to Ref. [12], similar disadvantages were faced by the Sri Lankan estate sector and the rural poor households. These disadvantages include remoteness, poor infrastructural facilities, low level and poor quality education and dependence on agriculture for livelihoods. The only difference between the rural poor and estate sector households is in their access to public health services, which is worse in the estate sector than in other areas. Thus, it can be concluded that lack of mainstream economic infrastructure is one of the main reasons for the high incidence of poverty in the estate sector.

## 5. Conclusion and policy recommendation

In probing the impact of trade liberalisation, it was revealed that the welfare gains are predicted to be highest under the unilateral trade liberalisation for all trading partners, followed by the customs union option (except in Sri Lanka) and the SAFTA. Although the SAFTA does not bring significant welfare gains for member countries, it could bring spillover benefits (improvement in infrastructure, benefits of economies of scale and new technology) which are beyond those declared in the agreement. Therefore, the SAFTA is preferable as a pathway to co-ordinating liberalisation in the region. As noted in Ref. [5], it is feasible to continue the process of unilateral trade liberalisation in parallel to regional integration in South Asia, which will help to improve both extra-regional and intra-regional trade in the economies in South Asia.

The results of this study indicate that the three trade policies positively contribute to the economic growth and that they do not conflict with the poverty reduction goals in South Asian economies. However, it is worth noting that, although trade liberalisation can help to reduce poverty, it may not be the magic bullet against poverty reduction, [53]. Therefore, other growth-enhancing reforms need to be pursued along with recommended trade policies to reap the maximum benefits of implementing such trade reforms to alleviate poverty in the region.

The poverty and income inequality analysis indicates that the unilateral trade liberalisation in South Asia predicts a more favourable result for the Sri Lankan households. Lorenz curves for the base year showed that the inequality is highest in the urban sector compared to the rural and estate sectors. This is further confirmed by the estimated S-Gini coefficients which reflect that under the SAFTA and unilateral trade liberalisation there is a reduction in estimated

S-Gini index. The poverty headcount ratio in the base year is highest for the estate sector while it is lowest in the urban sector. The decline in poverty in all three sectors under the two trade policies is evident in the FGT indices. The poverty reduction is higher under unilateral trade liberalisation than under the SAFTA. In Sri Lanka, poverty is predominant in the rural and the estate sectors and the results suggest that Sri Lanka can achieve significant progress towards poverty reduction as a result of implementing trade reforms. This study makes it quite clear that policy makers in Sri Lanka should give great emphasis to the detailed pathways through which trade liberalisation can have a positive impact on the poor and distribute benefits from trade liberalisation more fairly among all parties in the country to eradicate inequality and poverty from Sri Lanka.

## Appendices

Country/region/area	Sector
India (IND)	Rice (paddy and processed)
Sri Lanka (LKA)	Wheat, cereal and grains
Pakistan (PAK)	Vegetables and fruits
Bangladesh (BGD)	Oilseeds and vegetable oils
Rest of South Asia (XSA) (Bhutan, Maldives and Nepal)	Plant-based fibres and crops
United States of America (USA)	Sugar
Canada (CAN)	Dairy products and milk
European Union (EU)	Fishing
ASEAN-6 (ASE) Singapore, Thailand, Vietnam, Indonesia, Philippines, Malaysia	Meat
High-income Asia (HIA) (Hong Kong, China; Republic of Korea; Taiwan Province of China)	Food products necessities
Japan (JPN)	Beverages and tobacco products
China (CHN)	Textiles
Rest of Middle East (XME) Bahrain, Iraq, Islamic Republic of Iran, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates and Yemen	Wearing apparel
Australia and New Zealand (AUS_NZ)	Leather, wood products
Russian Federation and Rest of Former Soviet Union (RUS_XSU)	Paper products
Rest of world (ROW)	Chemicals, rubber and plastic products Metal products

Country/region/area	Sector
Primary factors	Electronic equipment
Skilled labour	Machinery and equipment
Unskilled labour	Manufacturing necessities
Capital (including land and natural resources)	Motor vehicles and transport equipment
	Petroleum and coal
	Gas manufactures and distributors
	Tradable services
	Non-tradable services
	Other primary products
	Trade and construction
	Electricity
	Water and air transport
	Oil and natural resources

Note: SAMGEM: South Asia multi-country computable general equilibrium model.

Table A.1. SAMGEM aggregation.

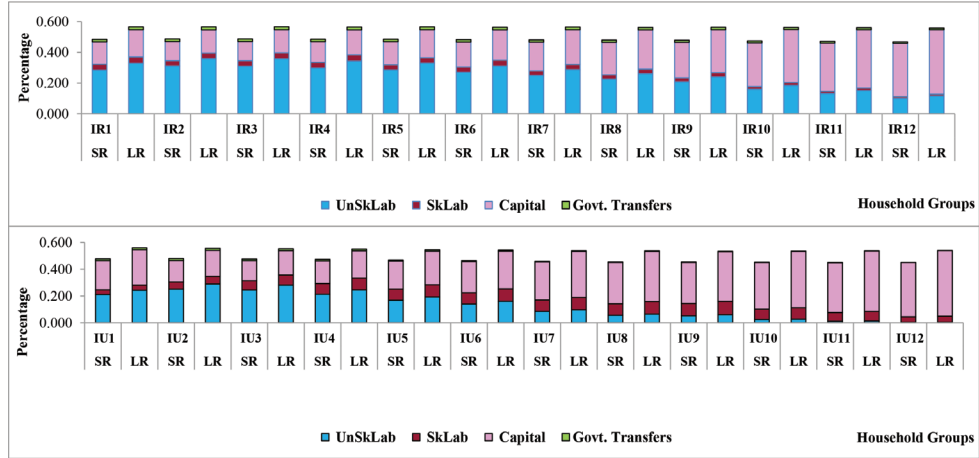
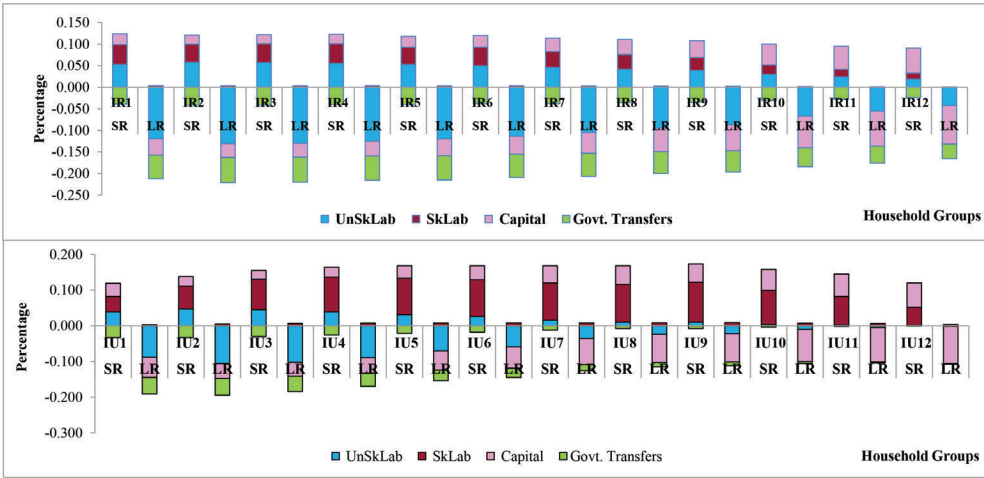
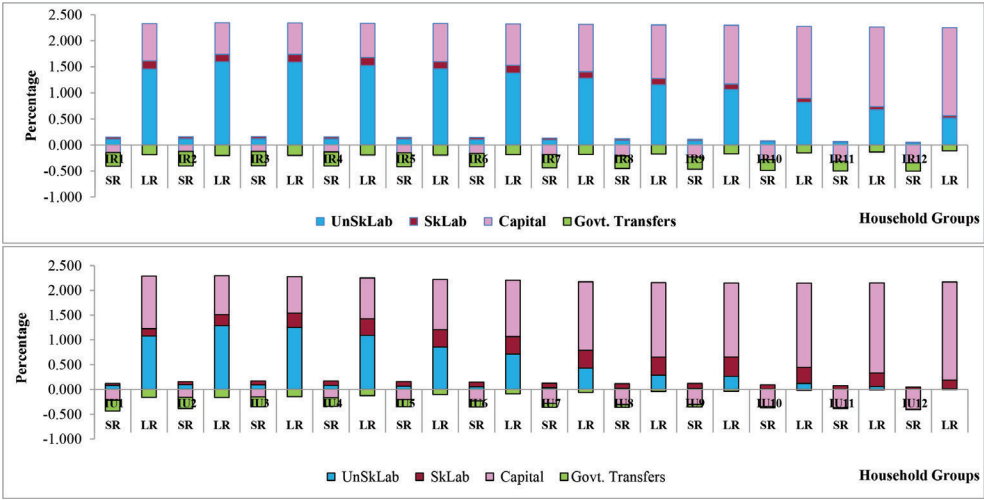


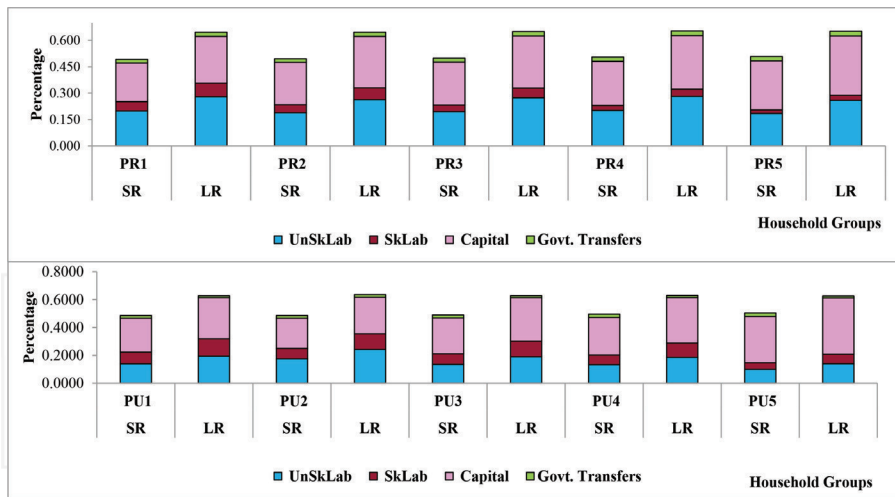
Figure A.1. Projections of change in household income under SAFTA: India. Source: Simulation results derived from SAMGEM. Note: SR: Short-Run; LR: Long-Run; IR1–IR12: Rural Household Groups; IU1–IU12: Urban Household Groups.



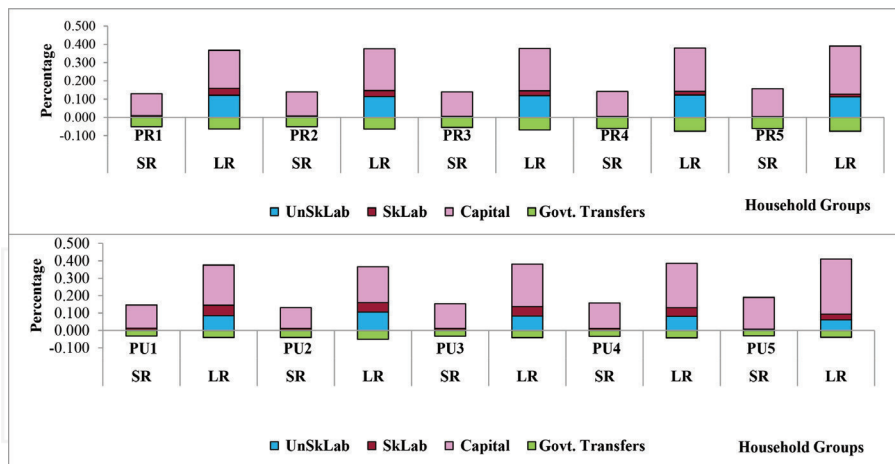
**Figure A.2.** Projections of change in household income under customs union: India. Source: Simulation results derived from SAMGEM. Note: SR: Short-Run; LR: Long-Run; IR1–IR12: Rural Household Groups. IU1–IU12: Urban Household Groups.



**Figure A.3.** Projections of change in household income under unilateral trade liberalisation: India. Source: Simulation results derived from SAMGEM. Note: SR: Short-Run; LR: Long-Run; IR1–IR12: Rural Household Groups; IU1–IU12: Urban Household Groups.

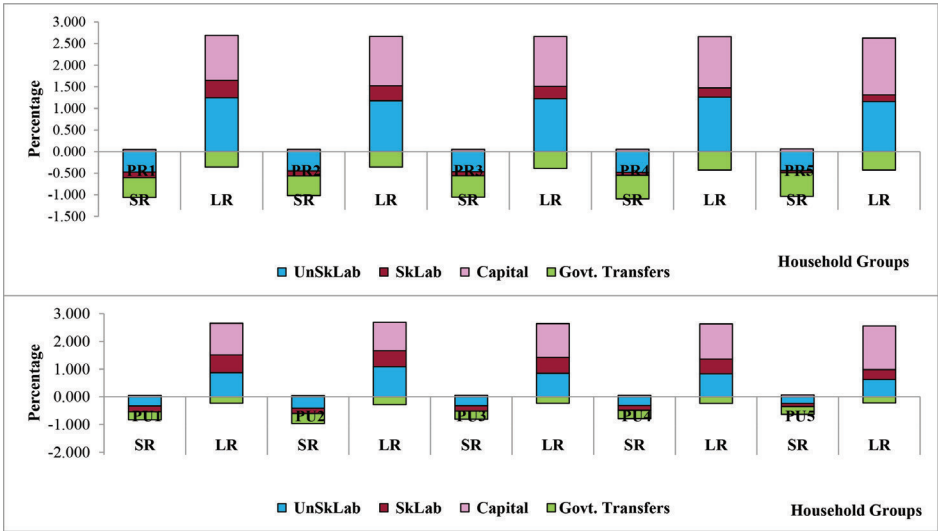


**Figure A.4.** Projections of change in household income under SAFTA: Pakistan. Source: Simulation results derived from SAMGEM. *Note:* SR: Short-Run; LR: Long-Run; PR1–PR5: Rural Household Groups; PU1–PU5: Urban Household Groups.

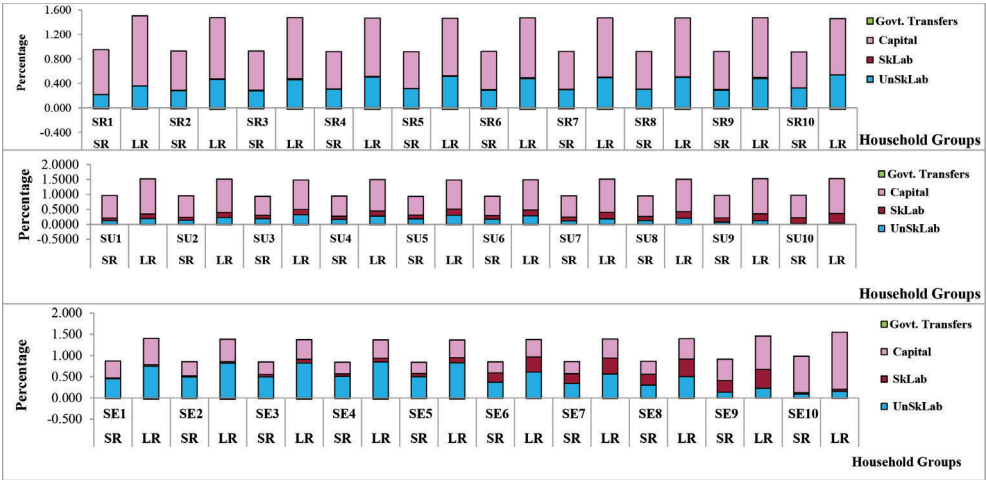


**Figure A.5.** Projections of change in household income under customs union: Pakistan. Source: Simulation results derived from SAMGEM. *Note:* SR: Short-Run; LR: Long-Run; PR1–PR5: Rural Household Groups; PU1–PU5: Urban Household Groups.

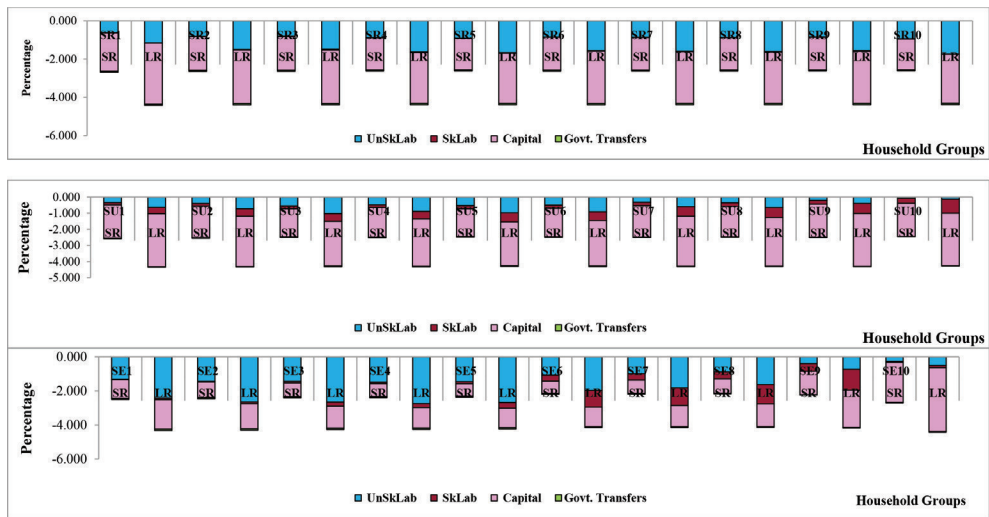




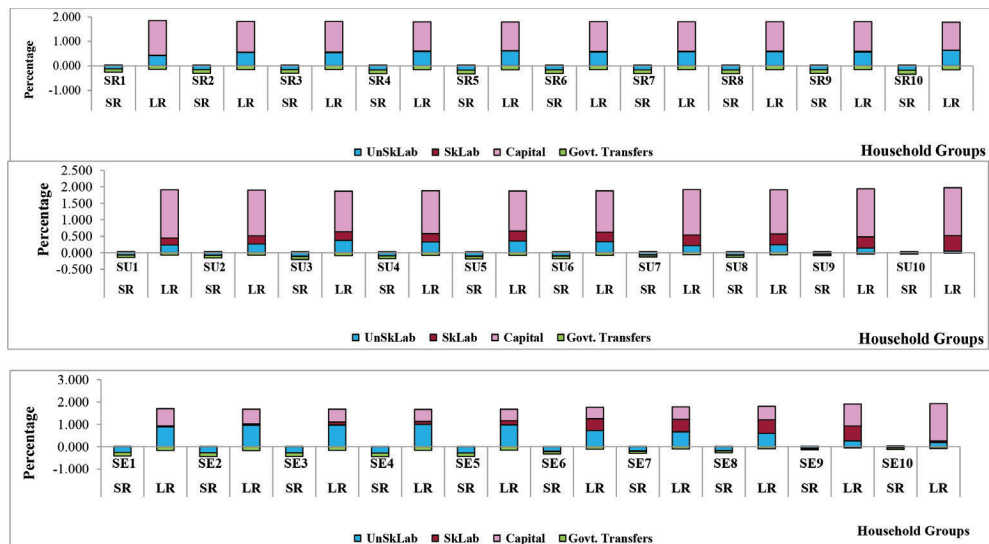
**Figure A.6.** Projections of change in household income under unilateral trade liberalisation: Pakistan. Source: Simulation results derived from SAMGEM. *Note:* SR: Short-Run; LR: Long-Run; R1-PR5: Rural Household Groups; PU1-PU5: Urban Household Groups.



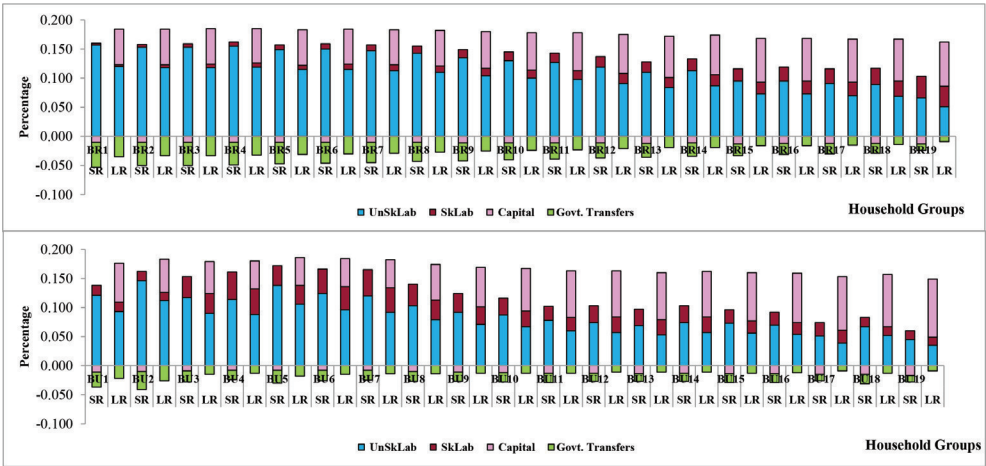
**Figure A.7.** Projections of change in household income under SAFTA: Sri Lanka. Source: Simulation results derived from SAMGEM. *Note:* SR: Short-Run; LR: Long-Run; SR1-SR10: Rural Household Groups; SU1-SU10: Urban Household Groups; SE1-SE10: Estate Sector Household Groups.



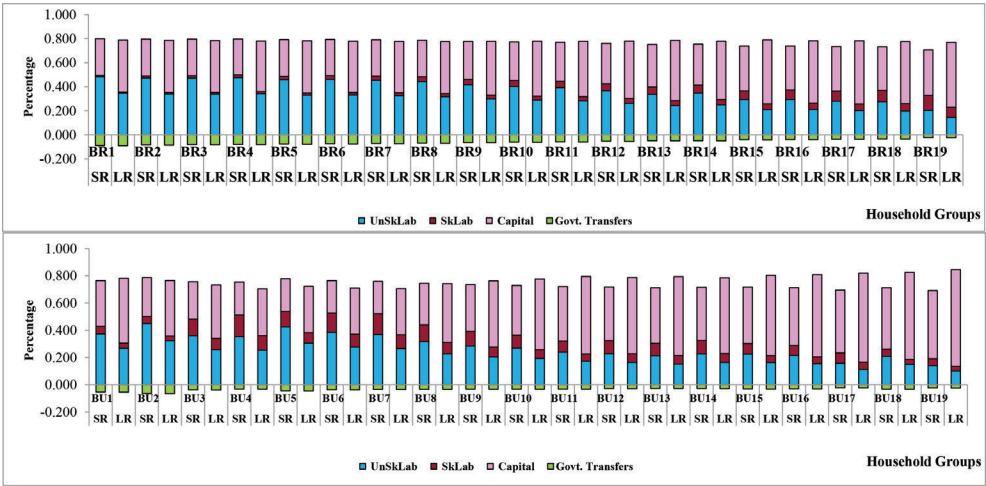
**Figure A.8.** Projections of change in household income under customs union: Sri Lanka. Source: Simulation results derived from SAMGEM. *Note:* SR: Short-Run; LR: Long-Run; SR1-SR10: Rural Household Groups; SU1-SU10: Urban Household Groups; SE1-SE10: Estate Sector Household Groups.



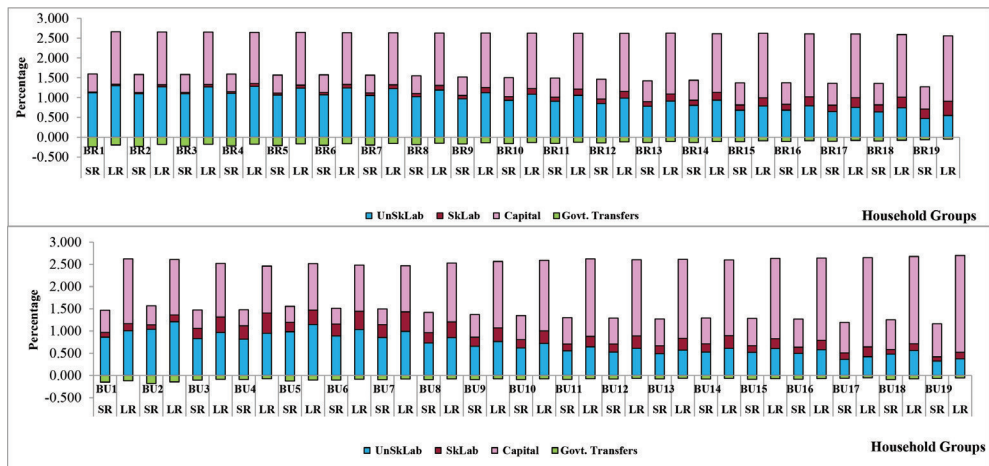
**Figure A.9.** Projections of change in household income under unilateral trade liberalisation: Sri Lanka. Source: Simulation results derived from SAMGEM. *Note:* SR: Short-Run; LR: Long-Run; SR1-SR10: Rural Household Groups; SU1-SU10: Urban Household Groups; SE1-SE10: Estate Sector Household Groups.



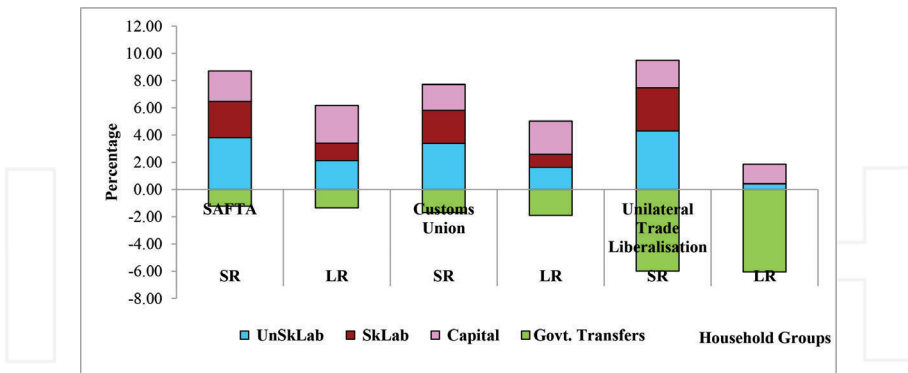
**Figure A.10.** Projections of change in household income under SAFTA: Bangladesh. Source: Simulation results derived from SAMGEM. *Note:* SR: Short-Run; LR: Long-Run; BR1–BR19: Rural Household Groups; BU1–BU19: Urban Household Groups.



**Figure A.11.** Projections of change in household income under customs union: Bangladesh. Source: Simulation results derived from SAMGEM. *Note:* SR: Short-Run; LR: Long-Run; BR1–BR19: Rural Household Groups; BU1–BU19: Urban Household Groups.



**Figure A.12.** Projections of change in household income under unilateral trade liberalisation: Bangladesh. Source: Simulation results derived from SAMGEM. *Note:* SR: Short-Run; LR: Long-Run; BR1–BR19: Rural Household Groups; BU1–BU19: Urban Household Groups.



**Figure A.13.** Projections of change in household income under different trade policy options: Rest of South Asia. Source: Simulation results derived from SAMGEM. *Note:* SR: Short-Run; LR: Long-Run.

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# Trade Facilitation, Economic Development and Poverty Alleviation: South Asia at a Glance

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Additional information is available at the end of the chapter

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## Abstract

South Asia faces enormous economic challenges unmitigated by generally poor economic growth. Increasing economic imbalance between countries hinders regional development. Recently, it has been confirmed that trade liberalisation aimed at expanding trade, has been insufficient in optimising the potential contribution of trade to economic development and reduce poverty. Thus, economists pay attention on Trade Facilitation (TF) which has the potential to contribute to economic development. This has motivated us to examine how TF can achieve this development in South Asia, where trade has yet to make its full contribution to economic growth. The aim of this chapter is to examine the economic impacts of TF on trade and economic growth in South Asia. Our analysis revealed that poor TF restricts trade between countries as it increases Trade Transaction Costs (TTCs). Trade delays are relatively high and affect the region's land-locked countries even more adversely. An efficiently facilitated trading system will enable these countries to participate more actively in global trade. There has been greater focus on TF policies in South Asia, however due to the complexity of TF measures and their investment needs, it is difficult to identify which TF measures have the most significance for the region.

**Keywords:** trade facilitation, trade transaction costs, economic growth, poverty, South Asia

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## 1. Introduction

South Asia, as the world's second fastest growing region, demonstrates impressive economic growth and trade is escalating rapidly. The trade and economic growth of the emerging

economy of India has contributed immensely to overall regional growth. However, persisting poverty and widening socio-economic inequality presents a massive challenge to the region and the majority of South Asia's poor live in India, despite the nation's impressive economic growth. In effect, researchers have identified that South Asia comprises two economic regions, one leading and one lagging. India has the largest economy, significantly larger than its neighbours in terms of size and growth. By contrast, the landlocked countries in the region display the lowest per capita income and consequently face greater economic challenges. While economic development through expansion of trade is one of the major steps towards poverty alleviation, the trend of South Asia's external trade reflects weaker performance. The region remains one of the least integrated in the world and intra-regional trade is fairly limited, in comparison with trade with external trading partners, although exports are limited to a few commodities. Small and medium enterprises (SMEs) face challenges in competing in foreign markets. However, most tariff and non-tariff impediments to trade have been substantially reduced. Facilitating trade has been recognised as an important policy option for economic growth and poverty alleviation in developing countries and Trade Facilitation (TF) is now considered a second-generation trade issue in South Asia which limits trade growth. Trade economists now focus on addressing the TF, since its potential impacts on economic development are significant.

The main purpose of this chapter is to examine the economic impacts of TF on trade flows and economic growth in South Asia. A desk research comprising two analytical approaches was conducted to meet the objectives of the chapter. Based on current statistics collected from online databases, the relationships between TF and economic growth are analysed. Thereafter, a discussion follows on the impact of TF on economic development based on existing quantitative estimations and the implementation programmes applied in the South Asian region.

The chapter reveals that the major TF issues and bottlenecks in South Asia are insufficient custom procedures and port handling, massive documentation requirements, limited use of information technology, transit barriers in landlocked countries and poor logistics. These have led to massive trade delays and high transaction costs in South Asia. Hence, traders are facing challenges in competing in international markets, resulting in fragile trade growth. The study reveals that poor TF affects trade and economic development in South Asia. Consequently, the region is still home to a very large number of poor, and most of the benefits of economic growth favour the relatively fewer wealthy households, further increasing regional disparities. The chapter highlights that South Asia needs to stimulate further growth in trade in order to strengthen regional integration and economic development in regional economies. TF is one of the keys to improve regional trade.

The chapter consists of five main sections. In Section 2, the concept and principles of TF and its benefits are discussed. The impact of TF on economic growth is analysed using secondary data and existing literature in Section 3. Section 4 provides an overview of TF implementation programmes in South Asia followed by concluding remarks in Section 5.

## 2. The concept of Trade Facilitation: principles and benefits

### 2.1. What is Trade Facilitation?

There is no firm definition for the term TF. It includes a range of interrelated factors. Therefore, there are different definitions that have been used to approach TF. In the literature, the term tends to be used to refer to issues of trade at the border and/or procedures behind the border, that is, the term TF has been applied to issues that arise when goods and services are moving across borders (narrow focus) and/or within the entire supply chain (wider focus).

During the Singapore ministerial declaration in 1996, factors relating to TF were added to the World Trade Organization (WTO) mandate. According to the WTO, a basic definition of TF refers to the simplification and harmonisation of export and import processes. This includes simplifying documentation, modernising procedures and harmonising customs requirements to reduce the costs and time involved in exports and imports. The WTO further qualified TF as the means of expediting the movement, release and clearance of goods including goods in transit [1]. The International Chamber of Commerce (ICC) [2] emphasises that TF is a way of improving efficiency of the processes associated with the trading of goods across national borders. ICC highlighted that TF is not just a matter of improving customs procedures but should also target the efficiency of a growing range of controls implemented at national borders by other authorities. However, Arnold [3] argues that improvements in transport and communication services and the advanced use of technology to monitor product flows and supply chain integration constitute additional factors. Portugal and Wilson [4] considered TF as a two dimensional: a 'hard' dimension related to tangible infrastructure such as roads, ports, highways and telecommunications and a 'soft' dimension related to transparency, customs management, the business environment and other intangible institutional aspects. Focussing on a basic definition, Persson [5] states that TF makes it easier for traders to move goods across borders by making cumbersome cross-border trade procedures more efficient. According to this definition, cross-border activities should be undertaken within the shortest time at the minimum costs. This may include both indirect costs (trade delays) and direct monetary costs. Zaki [6] described TF as a process that encompasses various aspects and deals with a wide range of issues, which is summarised as follows:

- i. Simplification of trade procedures and documentation
- ii. Harmonisation of trade practices and rules
- iii. More transparent information and procedures of international flows
- iv. Recourse to new technologies promoting international trade
- v. More secure means of payment for international commerce (more reliable and quicker).

Whichever elements are used to define TF, the main focus of facilitating trade is to minimise Trade Transaction Costs (TTCs) in the movement of imports and exports. However, complexities of this type of non-tariff measures and the absences of a precise definition hinder proper quantification of their benefits and the identification of the related steps to lower TTCs [7].

2.1.1. Trade Transaction Costs

The broad definition of TTCs includes all costs incurred in obtaining a good to a final consumer, excluding production costs. These are transportation costs (both freight costs and time costs), policy barriers (tariffs and non-tariff barriers), information costs, contract enforcement costs, costs associated with the use of different currencies, legal and regulatory costs and local distribution costs (wholesale and retail). TTCs are generally reported in terms of their Ad-Valorem equivalents (AVEs) [8].

For a number of reasons, TTCs may increase at border crossings. TTCs related to border procedures vary depending on the efficiency and integrity of interacting businesses and administrations, type of goods and size and type of business [9]. Shepherd [10] indicates that TTCs arise from many sources. Some of these may be described as ‘natural’ in the sense that they reflect inherent factors such as geographical distance or linguistic and cultural differences. Thus, TTCs include both direct and indirect costs. **Figure 1** describes the elements of TTCs, including these direct and indirect costs.

Direct TTCs include charges that are directly applied to trade transactions (**Figure 1**), such as collecting information, costs of providing necessary documentation, charges for logistic services, charges for customs brokers and the customs clearance fees or charges for outsourcing to service providers. Direct TTCs include charges for trade-related services, such as supporting services (cross-border banking, international transportation, trade insurance, cargo handling and port management) [11]. These charges depend on the complexity of market access regulations such as licensing, pricing regulations, competition regulations and infrastructure access regulations. They are measurable in monetary terms and TF improvements can lower such costs.

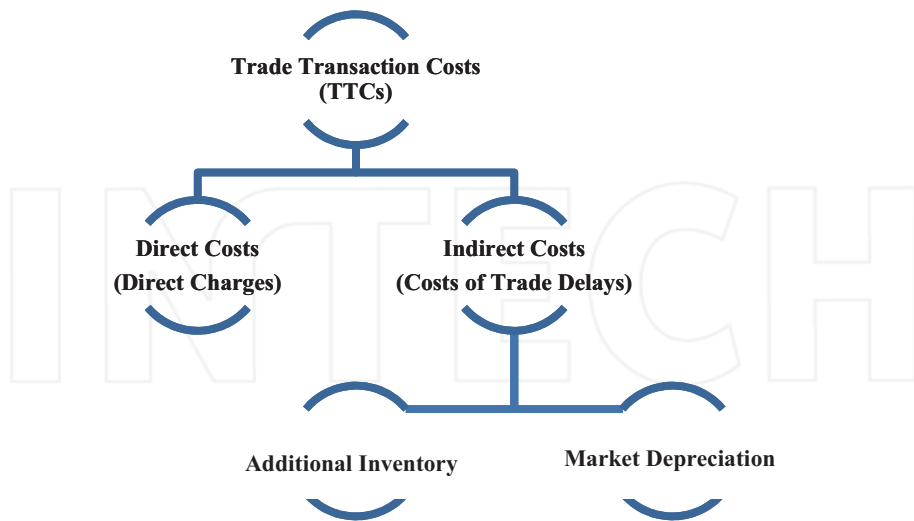


Figure 1. Elements of Trade Transaction Costs.

Indirect costs arise from procedural delays at borders and are difficult to estimate in monetary terms, since they involve transaction time and the unforeseen costs of such time. Hummels and Schaur [12] state that time costs include the cost of market depreciation due to delayed deliveries and additional inventories to traders, in order to maintain buffer stocks to avoid inconsistent border clearance time. They argue that excessive shipping time causes increased time costs, which may include spoilage in the case of fresh produce (agricultural products), and rapid technological obsolescence for goods such as consumer electronics (consumers place a high value on purchasing the latest innovations). Therefore, market depreciation, or deterioration of the value of the goods, occurs from delays in deliveries. Additional inventories may be necessary to avoid volatile demand or uncertain supply. This may lead to forgone cash flows and extra costs for storage.

The characteristics of direct and indirect cost components represent the 'iceberg' nature of TTCs. The direct costs are the tip of the iceberg. However, the larger part of the berg is under the waterline and unobservable, representing the indirect cost component. Thus, a large part of the value of traded goods melts away, when they are in transit for a long time as most of the researchers have found that the indirect costs component has a greater impact than direct costs. Zaki [6] defined iceberg costs as the costs of transporting goods that take up some fraction of the actual value of the goods. Thus, the iceberg tariff implies that a fraction of the goods melts when a tariff is imposed. These costs are passed on to the end consumers or taxpayers since the effective price of the imported goods is increased. Thus, some studies argue that increases in TTCs due to delays are comparable to taxes on trading. Further, TTCs in landlocked countries are very high because these countries have to bear the additional costs due to more complicated transit procedures.

In economics analysis, TTCs are considered as AVEs, comprising a percentage of the total value of the traded commodity. Engman [13] states that there are two categories of effect of AVEs, price effects and efficiency effects. Price effects comprise both direct costs such as customs fees, port handling fees and indirect effects such as delays and unreliability of border transactions due to insufficient TF. The price effect increases the price of traded product and may affect domestic production. Efficiency effects occur due to distortions in the allocation of resources in the economy. Both price and efficiency effects diminish economic welfare in importing and exporting countries.

## **2.2. Trade Facilitation in international trade theory**

The theory of TF has been developed gradually. Theories of the impact of TF in international trade are expressed in two structural frameworks: the partial equilibrium framework and the general equilibrium framework. The TF-related partial equilibrium models are based on the demand and supply theory. However, TF initiatives are highly correlated with economic movements between countries that are linked through international trade. This has led to the development of general equilibrium theoretical frameworks to illustrate the concept of TF in international trade.



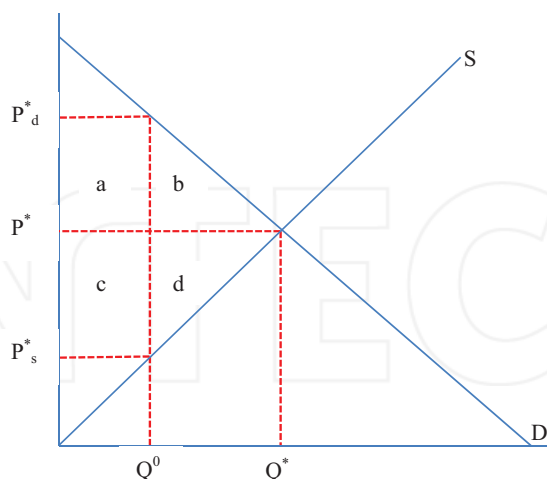
### 2.2.1. The theory of 'iceberg'

Consideration of the effects of TF in trade theory began with the development of 'iceberg' method [14]. Samuelson used this concept to model explicitly transportation costs, in order to analyse the possible effects of transport impediments on trade. Later studies have used the iceberg method to analyse the impacts of trade costs which arise due to insufficient trade procedures (poor TF), using partial equilibrium models as well as general equilibrium models. The following theoretical explanation is based on the World Trade Report 2015 [1].

#### 2.2.1.1. The iceberg approach in the partial equilibrium model

This section provides a graphical illustration of the iceberg method and the impact of trade costs on an imported good using the partial equilibrium framework.

Inefficient trade procedures lead to increased TTCs. This could generate a wedge between the producer price and the price paid by consumers, leading to a pure deadweight loss. Samuelson [14] described this, assuming an iceberg where only a fraction of ice exported reaches its destination as unmelted ice. **Figure 2** illustrates the demand and supply price of an imported good, assuming that the good is not produced domestically. If  $D$  is the import demand and  $S$  is the export supply, consumers pay the price  $P_d^*$  and exporters receive the price  $P_s^*$ , and the quantity imported is  $Q_0$  due to high trade costs at the initial level. However, with TF improvements (assuming TTCs are reduced to zero), the price wedge ( $P_d^* - P_s^*$ ) slowly reduces and the system adjusts to the equilibrium at the price  $P^*$  and the quantity imported rises from  $Q_0$  to  $Q^*$ . As a results, terms of trade increase in both countries and increase consumer surpluses (a+b) and producer surpluses (c+d).



**Figure 2.** The 'iceberg' effects in the partial equilibrium framework. Source: The World Trade Report 2015.

#### *2.2.1.2. The iceberg approach in general equilibrium models*

The theoretical developments of the effects of TF in a general equilibrium framework can be discussed in terms of both classical trade and new trade theory. The classical trade theory consists of the Ricardian model and the Heckscher-Ohlin model. These two models explain that countries produce goods having comparative advantage due to relative productivity differences (comparative technological advances) or endowments of factors of production (use abundant factors of production more intensively), respectively. However, these two models provide similar explanations regarding the impact of TTCs, illustrating that insufficient TF reduces the price wedge between the domestic and the world market price when a country opens to trading.

In the Ricardian model, if countries do not trade with each other (in autarky), the relative price of one good expressed in terms of the other good differs between them. This motivates the enhancement of bilateral trade, as the world market price exceeds the domestic prices due to the specialised production of the good that has comparative advantage. However, TTCs due to insufficient TF lower the difference between the relative prices faced by both trading partners and the international price moves closer to the autarky price, leading to reduced trade and consumption, as well as economic welfare.

On the other hand, assuming similar productivity in both countries, the Heckscher-Ohlin model describes the differences in factor endowments. The model assumes that there are two factors in production, labour and capital. One country is labour abundant and the other capital abundant. The prices of two goods in two countries differ in autarky due to different factor endowments. The labour-abundant country produces a labour-intensive good with a domestic price lower than the foreign price. Conversely, the capital-abundant country is able to produce a capital-intensive good at a lower price compared to the foreign country. If the capital-abundant country and the labour-abundant country open to international trade, both can produce more of each good using the abundant factor and export. The labour-abundant country exports labour-intensive products and imports capital-intensive products from the capital-abundant country. The world market price is set between two autarky prices. With free bilateral trade, both countries gain due to comparative advantage. However, TTCs due to poor TF can reduce the gap between the autarky and world market price faced by two countries and this reduces the trade and consumption and economic welfare. The Heckscher-Ohlin model explains how TF improves the real income of the abundant factor of production. If a country is able to reduce TTCs, it can utilise the abundant factor more intensively, increasing the factor demand and thereby increasing the real return of that factor.

Classical trade theories explain inter-industry trade as described earlier. However, new trade theories examine why countries experience intra-industry trade. The new trade theory pioneered by Krugman [15, 16] is characterised by the nature of a firm's behaviour such as monopolistic competition, heterogeneous firms and global supply chain theories.

New trade theory explains that the trade costs can have a disproportionately adverse impact on developing countries. Developing countries produce more agricultural or natural resource-

related goods with constant returns to scale and a small manufacturing sector. In contrast, developed countries have a large manufacturing sector, which operates under increasing returns to scale. Trade costs can reduce trade in both developed and developing countries, leading to a disproportionate reallocation of manufacturing goods to developed countries and agricultural and natural resources to developing countries. This highlights the importance of reducing trade costs in order to diversify trade in both developed and developing countries.

However, recent trade studies concern the differences of firms with respect to productivity, size of firms and participation in international trade (heterogeneous theory) (see Refs. [17, 18]). According to this theory, only the most productive firms can enter into the export markets. There are two productivity thresholds: the minimum level required for a firm to survive and the level at which the firm can start exporting. The reduction of trade costs can lower the gap between these two threshold levels. This increases a range of firms that are excluded by the competition and range of firms entering into the export markets. As a result, resources are released from the less productive firms and reallocated to the most productive firms. The reduction of trade costs affects export markets positively in two ways. Exporters can expand their volume of exports (intensive margin) and increase the entry of new firms into the export market (extensive margin).

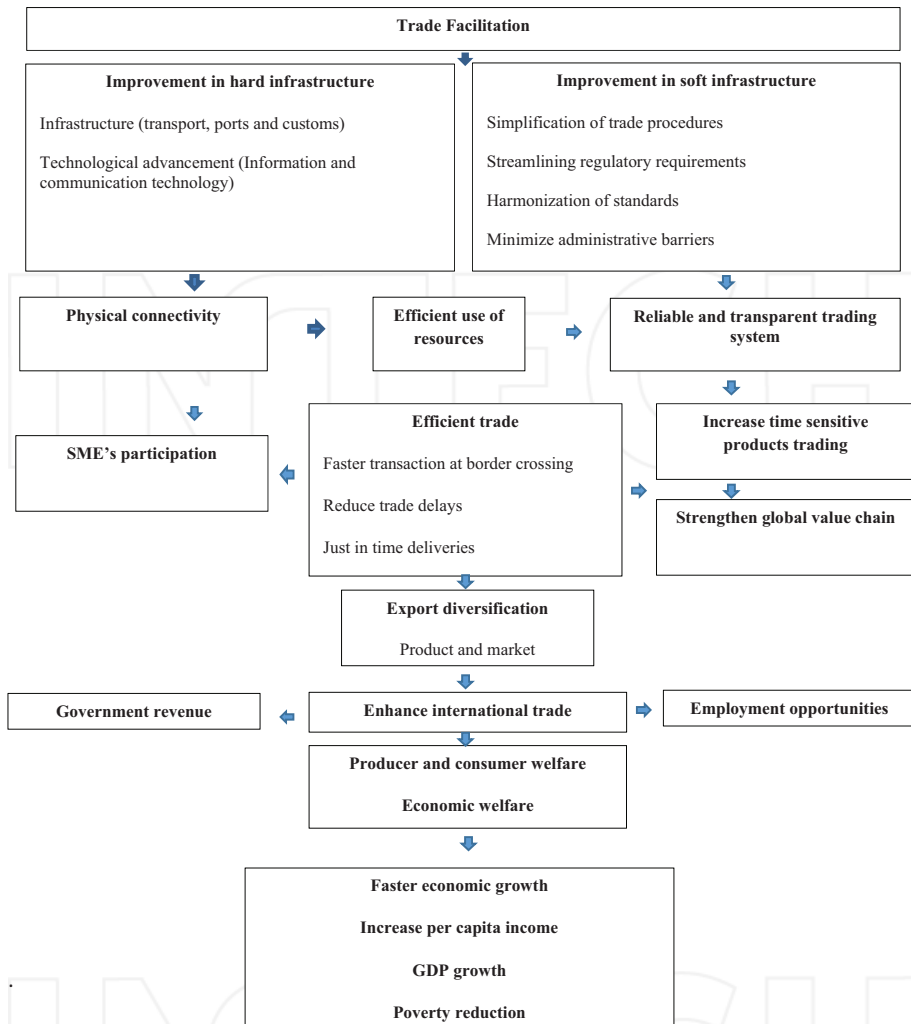
Classical trade theory assumes that the final good is produced completely within the country, while supply chain models are concerned with trading intermediate goods. The final production of a good comprises the different types of parts and components traded. Thus, trade costs may accumulate through different stages of the value chain, as intermediate goods cross borders. If trade costs are too high in the value chain, countries may be reluctant to trade intermediate goods and trade only final goods. This highlights the importance of improving TF in order to strengthen the global value chain, enabling countries to gain comparative advantage by specialising the stages of value chain.

### 2.3. Benefits of Trade Facilitation

Efficient TF measures can eliminate costs and reduce time needed for exporting and importing (TTCs). This is critical as trade costs can be as high as 134% ad valorem tariff on a product in high-income countries and a 219% tariff equivalent in developing countries [1]. The benefits of improved TF from reduction of TTCs following trade expansion lead to economic development, with gains accruing at various stages of development process (**Figure 3**).

TF can be improved by lowering TTCs. In practice, improving TF encompasses many interrelated factors which effect the reduction in associated trade costs. For example, improved infrastructure related to transport, ports and customs, and more advanced use of information and communication technology (hard infrastructure) strengthen physical connectivity among countries and also regions within the country, facilitating trade expansion.

Alternatively, trade procedures involve collecting, presenting, communicating and processing data required in cross-border transactions. If these processes are subject to excessive documentation, physical inspections and bureaucratic requirements (red tape) at borders, processing costs and clearance times will increase, leading to increases of both direct and indirect TTCs.



**Figure 3.** Benefits of Trade Facilitation.

Thus, improving soft infrastructure is vital to eliminate TTCs in the accrual of TF benefits, while simplification and harmonisation of trade procedures enable traders to deal more easily with cross-border transactions. Subsequently, international trading systems become more transparent and reliable, with more efficient use of resources, which reduces smuggling and informal trade.

TF allows countries to speed up trade transactions. This is more important as time is becoming increasingly a critical factor in determining the comparative advantage of trade. The contemporary business environment seeks faster global transactions made possible by globalisation of

information technology. In the modern trading environment, consumers are willing to pay more for faster deliveries of goods and services making it essential that firms deliver their products on time. Consequently, firms have the burden of additional costs of holding a buffer stock to avoid trade delays. These inventory costs include both capital costs of the goods while they are in transit and costs of holding larger quantities of stock to cover variations in arrival time [19]. Border transaction inconsistency may affect a firm's competitiveness negatively. Nordas et al. [20] explained that time taken for moving goods to the market affects trade flows in two ways. Firstly, it determines whether or not firms will enter a particular foreign market. Secondly, time affects the volume of trade once a market entry is made. This is more crucial for firms trading time-sensitive commodities. Such products include fresh produce such as agricultural products (fresh fruit and vegetables) and seasonal products such as textiles and clothing. However, minimising trade delays through efficient TF initiatives enables countries to increase volumes of time-sensitive product exports to meet consumer satisfaction.

A majority of TF-related studies have found that potential benefits of TF are greater in developing countries, and more gains are acquired by small and medium enterprises. Improved TF encourages more active participation of export-driven SMEs. Improvement in information and communication technology is one of the crucial factors that could prevent asymmetric effects on SMEs. If trade procedures and regulatory requirements are not transparent and reliable, SMEs have difficulty in accessing information, which then demands the use of additional resources and time acquiring information not readily available. Further, a lack of available information reduces the capacity to predict the market behaviour. As additional expenses do not normally vary according to the value of goods or the volume of sales, operational costs per product increase. These costs may also comprise significant indirect costs related to foregone business opportunities which place SMEs in a weaker position [21]. However, the development of the Internet and e-commerce and simplification of trade regulations can reduce informational and market access barriers faced by SMEs.

A more diversified export sector offers a wider range of products and destinations. A facilitated trading system can deliver positive benefits towards diversifying both export products and markets. Export diversification has two dimensions, product diversification and market diversification. TF generates significant benefits that create new trade flows [10]. This can be either by the introduction and supply of previously untraded products into the existing markets or by the expansion of trade in existing products to new markets which leads to trade expansion. Some studies have found that there is a significant positive relationship between TF and export diversification. Dennis and Shepherd [22] concluded that export costs, international transport costs and domestic market entry costs have a significant negative impact on export diversification. This underlines the importance of reducing TTCs to promote export diversification. Shepherd [10] also found that a 10% improvement in TF is associated with a 5–6% increase in the number of foreign markets served. Export volume increases as a result of export diversification which generates gains for both producers and consumers.

Improved TF enables governments to benefit from the increased tax revenue of the expansion of international trade. Most developing countries depend heavily on tax revenue to finance public expenditure. Thus, improved TF is likely to increase government revenue since the reduction in

TTCs increases the volume of exports and imports. This offsets the large investment necessary to improve TF in a country. Further, improvement in TF in one country can lead to increased exports or imports of partner countries linked through external trade. Thus, bilateral government cooperation, as in the case of tariff reforms, is unnecessary since partner countries can still benefit from unilateral TF reforms.

Several studies have attempted to estimate the potential welfare gains that can be realised from improved TF (Table 1). Table 1 illustrates recent estimations of the benefits of TF. Most of these studies have used Computable General Equilibrium (CGE) models and gravity models to estimate the effects of TF on trade flows and economic welfare. These estimates clearly indicate that there is a positive relationship between TF and trade flows. Even a slight improvement can generate considerable economic welfare and clearly benefits are much greater in developing countries.

It is clear that TF can strengthen the global value chain, encourage SME participation in external trade and improve export diversification. This stimulates trade, generating employment and increasing government revenue through taxation. Eventually, producers and consumers are better off, producing a positive welfare impact on the economy fostering economic growth and development. This process is also favourable to reduce poverty in two ways. Firstly, TF stimulates trade and expands entrepreneurial activities. Secondly, an increase of

Study	Key results	
	Effects on trade flows	Effects on welfare
Francois et al. [23] (CGE GTAP model) Simulation: A partial reduction of TTCs related to TF	2.7 (% of GDP) increase in world export volume	0.2 (% of GDP) increase in world income
Wilson and Otsuki [24] (Using indicator based measurements: Port efficiency, Customs, Regulations and Service sector infrastructure) Simulation: South Asia increase its capacity half away to East Asia with respect to above indicators	Trade expected to rise by USD 2.6 billion	
Decreux and Fontagne [25] (CGE model) 50% reduction in AVEs of time at the border	World trade increase by 1.9%	
Dennis and Shepherd [20] (Gravity model) 10% reduction in costs of exporting, international transport and market entry	Export increase 3% International transport increase 4% Market entry increase 1%	
Persson [5] (Gravity model) 1% reduction in number of days needed to export	Homogeneous goods increase by 0.3% Differentiated goods increased by 0.6%	
Zaki [6] (Gravity and CGE models) 25% reduction in AVEs of time to import and export	Increase EU: 10.6% US: 3.9 Japan: 2.1%	Increase Africa: 4.7% Asia: 5.2% Middle East 3.1% North Africa 2.9%

Table 1. Impacts of Trade Facilitation on trade flows and welfare.

tax revenues due to economic growth generates financial resources for the government to develop and implement specific measures to alleviate poverty and reduce social inequalities.

### **3. Analysis of the impact of Trade Facilitation on economic development in South Asia**

#### **3.1. Methodology**

In this section, trade and economic development issues in South Asia are reviewed briefly and analysed the impact of TF on trade growth and economic development. A desk research was conducted to meet this objective and assess the relationship between TF, trade growth and economic development based on statistics collected from online databases and existing available quantitative estimations, confined to the South Asian region. The following TF and development indicators are used for this analysis.

##### *3.1.1. Trade Facilitation measures*

There are various TF indicators which have been used to measure the effects of TF. The most common of these are 'Doing Business' (DB) indicators related to trading across borders, the World Bank's Logistics Performance Index (LPI), the Organisation for Economic Co-Operation and Development's (OECD) TF indicators and the World economic forum's Enabling Trade Index (ETI) [1]. For the purpose of this analysis, the DB and the LPI were used to measure TF.

##### *3.1.1.1. Doing Business indicators*

According to the 'Doing Business' report, there are 11 DB indicators, comprising mainly indicators for ease of doing business, which rank countries according to their relative performance, and the 'Distance to Frontier' which scores the best performing economy [1]. For the purpose of this analysis, we used DB related to trading across borders. These include time and costs to exports and imports. Time and costs (excluding tariffs) include costs for documentary compliance, border compliance and domestic transport within the overall process of exporting or importing a shipment of goods [26].

##### *3.1.1.2. The Logistics Performance Index*

The LPI was developed by the World Bank, based on online surveys of operators in charge of moving and trading goods. The LPI measures the logistics friendliness of a country based on six dimensions. These are customs, infrastructure, ease of arranging shipments, quality of logistics services, tracking and tracing and timeliness [1]. If country shows low performance, the LPI index value is equal to 1 and for high performance, equal to 5.

##### *3.1.1.3. Gross Domestic Product (GDP) per capita growth rate*

GDP per capita is calculated using gross domestic product, which is divided by midyear population. GDP at purchaser prices is the sum of gross value added in the economy and product



taxes. Subsidies are not included in the value of the products. The GDP per capita growth rate is calculated as an annual percentage based on the constant local currency [27].

## 3.2. Economic growth and external trade in South Asia

### 3.2.1. Overview

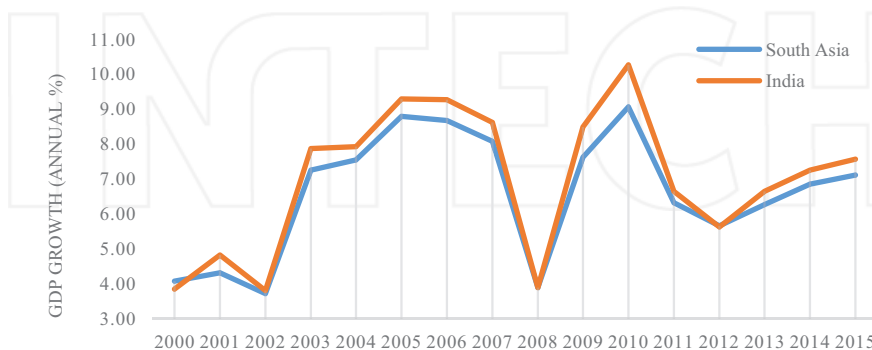
South Asia is a region of rapid economic growth and transformation, composed of eight economies: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. The larger economies are those of India, Pakistan and Bangladesh, with India rated second largest emerging economy in the world, representing the largest economy in the region. India differs significantly from its neighbours, due to the size of its economy, population, land area and diverse socio-economic characteristics. The landlocked countries of Afghanistan, Bhutan and Nepal record the lowest per capita income.

South Asia faces enormous development challenges and economic imbalances affect regional economic development adversely. The major development challenges facing South Asia are the need to accelerate overall regional economic development in relation to the past and the need for the smaller economies to match the level of the growth in larger economies [28].

### 3.2.2. Economic growth

There has been a notable economic growth in South Asia during the past 15 years, with the exception of the 2008 economic recession, producing the second fastest growing regional economy in the world. The Indian economy has largely contributed to this growth (**Figure 4**), with the economic contribution of other regional countries negligible. Thus, South Asian economic growth is generally a reflection of the Indian economy.

The rapid growth of external trade has contributed to this economic growth. Arnold [3] has indicated that a part of this growth can be associated with higher unit prices of basic commodities, but that the greater part is related to increased volumes of shipments. Panagariya [29] has illustrated that the steady rise of the Indian economy has largely contributed to this growth



**Figure 4.** Annual percentage of GDP growth in South Asia and India. Source: World Development Indicators online database [27].

trend. South Asia attracts global attention because of this rapid growth, global outsourcing and skill-intensive service exports [30].

**Table 2** illustrates disparities of economic development across countries in South Asia based on a few economic development indicators. Regional per capita income gaps vary significantly. India almost contributes nearly 80% of total South Asian GDP, whereas Pakistan accounts for 10%. Other countries are relatively small in terms of GDP and population, showing only minor contributions to regional GDP.

Ahmed et al. [28] have noted that there are two regions within South Asia, one leading and one lagging. The leading region is characterised by faster economic growth, urbanisation and integration into the global economy. The lagging region remains rural, relying on low-value activities and lacks economic integration both regionally and globally.

3.2.2.1. *Gross domestic product per capita growth rate*

GDP per capita growth rates in South Asia vary widely. The leading economy, India has been growing rapidly followed by Bangladesh, Pakistan and Sri Lanka (**Figure 5**). India recorded the highest growth rate in 2010 after a rapid recovery from global economic recession in 2008. Conversely, landlocked countries have shown fragile economic growth during the last decade, with the Maldives showing a similar volatile pattern (**Figure 5**). Regional disparities further ensure these countries remain in poverty. Canut [31] pointed out that the majority of the world’s poor do not live in low-income countries, but in countries with middle levels of per capita income, showing that the geography of poverty exhibits regional concentrations. Two-thirds of the poor live in India and the lagging regions of South Asia.

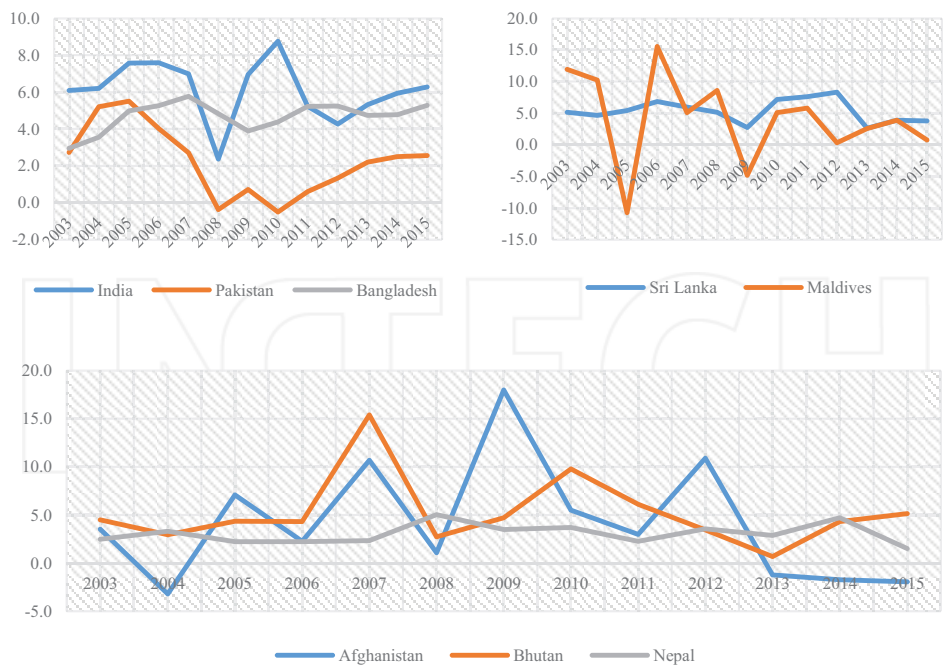
3.2.2.2. *Income distribution*

According to the World Bank, global poverty has reduced over the past few decades. There is an impressive reduction in poverty due to strong growth and resilience in South Asian

	Share of regional GDP (%)	Share of regional population (%)	Per capita GDP (current US\$)
Afghanistan	0.9	1.8	665
Bangladesh	6.3	9.4	958
Bhutan	0.1	0.05	2363
India	79.2	74.9	1498
Maldives	0.1	0.02	6666
Nepal	0.8	1.6	694
Pakistan	9.8	10.9	1275
Sri Lanka	2.8	1.2	3279

Source: World Development Indicators online database [27].

**Table 2.** South Asian Countries’ contribution to the regional economic growth.



**Figure 5.** Gross domestic product (GDP) per capita growth rate in South Asia. Source: World Development Indicators online database [27].

countries. However, the region is still home to a very large number of the poor [32]. According to the poverty headcount index (Table 3), nearly fourth quarter of the Indian population lives on less than \$1.10 per day, whereas half of the population is below \$3.10 per day. This indicates that most of the South Asian poor are living in India, despite its significant economic growth. This situation is common to most of the South Asian countries, except Sri Lanka and the

Country	Headcount Index at \$1.9	Headcount Index at \$3.10	Gini index (2010)
Sri Lanka	1.92	14.59	36.39
Bhutan	2.17	13.33	38.37
Pakistan	6.07	36.88	39.8
Maldives	7.2	23.26	-
Nepal	14.99	48.44	33.84
Bangladesh	18.52	56.8	32.13
India	21.23	57.96	38.37

Source: World Development Indicators online database [27]<sup>1</sup>.  
<sup>1</sup>The year of this index differ among countries; India – 2011, Bangladesh – 2010, Pakistan – 2013, Bhutan – 2012, Maldives – 2009 and Nepal - 2010.

**Table 3.** Income distribution in South Asia.

Maldives. Most of the benefits of economic development flow towards a relatively small group of wealthy households, maintaining the regional disparities. The Gini index also shows that South Asia indicates an increase in disparities in income distribution. As **Table 3** shows, this is a most serious phenomenon in South Asian countries, with income distribution worst in India and Pakistan.

Despite progress in economic growth in South Asia, the region continues to face the challenges of poverty and serious income disparities. As poverty indicators show, most of the poor live in India. This emphasises that India still faces serious poverty complications. Further, landlocked economies in South Asia are diverting from other economies which has formed a large economic lag in the region. However, external trade significantly contributes to economic growth in the region. The following section discusses recent trends in external trade in South Asia.

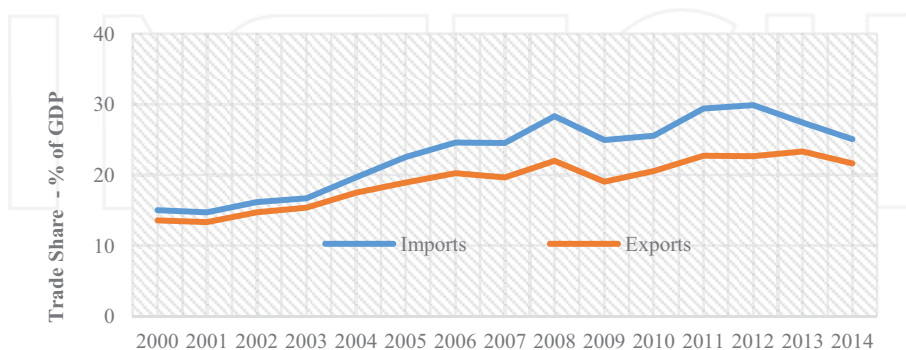
### 3.3. Trends in external trade

As **Figure 6** shows, external trade in South Asia has increased over the last decade. The pattern of this trend reflects how the growth of exports and imports has contributed to South Asia's GDP.

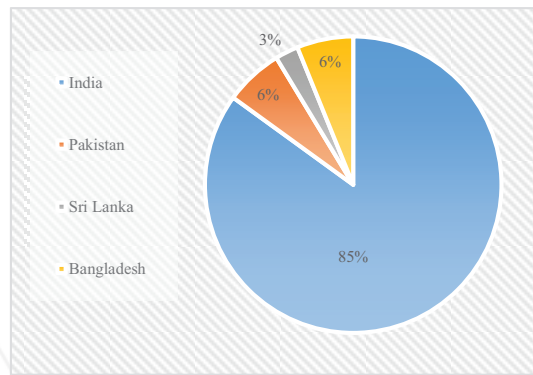
India has contributed most significantly to this trade growth, showing that it is the dominant country responsible for regional economic growth. India contributes 85% of the total value of regional exports as illustrated in **Figure 7**. India enjoys the largest share of the South Asian trade due to its size, comparative advantages and technological advancement, compared to rest of the region. The other seven countries have smaller economies than India and their contribution is relatively insignificant. The total export share of Bangladesh, Pakistan and Sri Lanka is around 15%.

#### 3.3.1. Export diversification—commodities

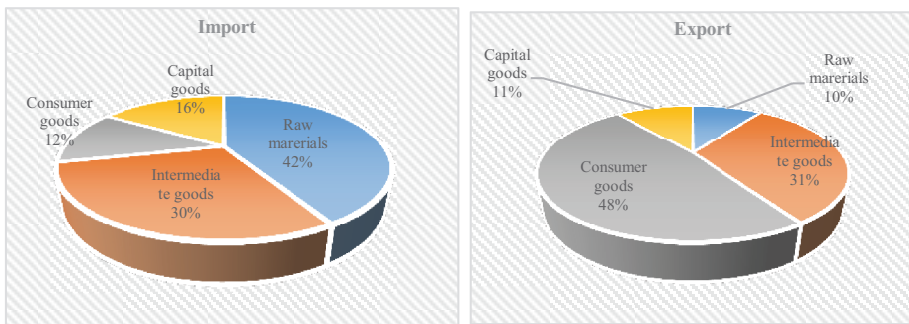
South Asia exports mainly consumer and intermediate goods. The majority of imports are raw materials and intermediate goods (**Figure 8**). Export of capital goods contributes only 11% of



**Figure 6.** GDP share of goods and services trade in South Asia. Source: World integrated trade solution online database [33].



**Figure 7.** Export shares in South Asian countries. Source: World integrated trade solution online database [33].



**Figure 8.** Trade composition in South Asia. Source: World integrated trade solution online database [33].

total regional exports and India is the major exporter in this category [34]. The manufacturing sector in South Asia is restricted by the limited capacity to generate exportable surpluses [36]. Thus, South Asia's exports generally concentrate on labour-intensive products such as textile and garments, leather products and agricultural products, all highly dependent on imported raw materials and other intermediate goods.

Exports of South Asia comprise mainly consumer and intermediate goods, fuels, textile and clothing. This includes 1532 consumer products, 2049 intermediate goods, 584 raw materials and 90 capital goods [33]. **Table 4** shows that compared to other countries, India's exports are diversified and their export basket consists of intermediate and consumer goods, as well as a considerable portion of capital goods. The other South Asian countries concentrate on the exporting of consumer goods such as labour-intensive textile and agricultural products. Bangladesh and Sri Lanka, in particular, mainly export textiles and clothing. The Maldives exports raw materials which represents nearly 83% total exports. Consumer goods comprise 11.5% and include mainly fish and related products. Bhutan is least diversified and exports consist of 84% intermediate products.

Country	Import and export product share by each product category											
	Total number of products				Consumer goods				Capital goods			
	Imported	Exported	Imported	Exported	Imported	Exported	Imported	Exported	Imported	Exported	Imported	Exported
India	4331	4434	10.04	47.84	15.95	13.03	28.80	29.53	42.50	9.08		
Pakistan	4083	2877	33.23	55.12	17.15	3.06	29.06	31.49	20.26	10.19		
Sri Lanka	4165	3001	12.01	76.46	4.50	4.71	4.91	10.69	5.52	7.07		
Bangladesh	4148	1768	14	89.78	7.18	0.68	10.62	4.02	11.51	5.5		
Nepal	4004	1175	33.93	44.31	14.13	1.31	42.05	41.86	8.04	7.59		
Bhutan	3266	332	37.10	4.24	18.95	0.01	31.53	84.35	11.16	11.39		
Maldives	2580	29	59.73	11.52	17.51	NA	11.74	5.09	10.15	83.29		
Afghanistan	15	5	4.54	27.14	NA	NA	13.3	NA	19.34	2.13		

Source: World integrated trade solution online database [33]<sup>2</sup>.

<sup>2</sup>Data included in **Table 3**: related to the year 2014 except Bhutan 2012, Nepal 2013, and Bangladesh 2011.

**Table 4.** South Asia's exports by different product categories.

### 3.3.2. *Export diversification—markets*

South Asia exports to 226 destinations and imports from 231 sources [33]. The largest export trading partners of the region (excluding landlocked countries) are the USA, EU, China and UAE (**Figure 9**). The share of these countries is around 50% of total exports and this shows that South Asia's export earnings depend heavily on a few developed countries. Landlocked country exports are limited to their neighbours. India accounts for 70 and 94% of Nepal's and Bhutan's exports, respectively, whereas Pakistan and India are Afghanistan's export markets.

The largest import sources of the region (excluding landlocked countries) are East Asia and the Middle East. China, Singapore, Indonesia, Thailand, UAE and Saudi Arabia are the leading import sources of India, Pakistan, Bangladesh and Sri Lanka. Similar to exports, the landlocked countries import only from their neighbours, especially India [33].

South Asia's export and import markets are significantly concentrated. The five largest economies of the region account for nearly 50% of total trade, excluding landlocked countries. The trade of Nepal and Bhutan concentrates on India (more than 75%), whereas Afghanistan's trade primarily takes place with Pakistan and India (more than 50%). According to **Figure 10**, the highest Herfindahl-Hirschman index<sup>1</sup> value is recorded in landlocked countries. These countries share common borders and therefore experience difficulties in accessing markets, both within and outside the region, due to security checking and other formalities imposed by bordering governments, and poor trade transport which limits market access.

Perhaps, the most negative regional economic reality is that national incomes largely depend on the economic prosperity of developed countries and are vulnerable to global economic shocks. Regional labour-intensive exports, such as textile and garments, are directed to high-income markets, for example, the USA and EU. The USA is the leading export market for the four largest economies of South Asia: India, Pakistan, Bangladesh and Sri Lanka. As Wilson and Ostuki [35] have explained, the financial crisis of the late 1990s severely affected developing countries, including those of South Asia. Further negative impact on the South Asian economy was caused by the global financial crisis in 2008. According to the World Bank [36], the commodity price shocks led to major trade losses in South Asia which was nearly 9% of GDP until May 2008. In the light of this dependency, trade economists have stressed the importance of strengthening intra-regional trade to increase stability against external shocks. Further, the long distances of these major markets impose significantly higher costs for South Asian exporters [24].

### 3.3.3. *Intra-regional trade in South Asia*

South Asia remains one of the least integrated regions in the world. Intra-regional trade in South Asia has comprised merely approximately 5% of world trade over the last two decades. If India is excluded from the group, the contribution would be less than 2%. On the contrary, the contribution of the intra-regional trade of Southeast Asia accounts for around 25% of the

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<sup>1</sup>Which is commonly accepted measure for market concentration. The value ranges between 0 and 1 and if country's trade value concentrated to few markets will have an index closed to 1 (less diversifies).

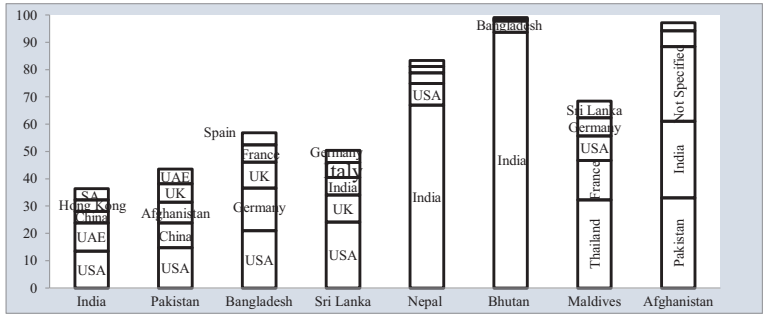


Figure 9. South Asia's trade direction—export destinations. Source: World Integrated Trade Solution Online Database [33].

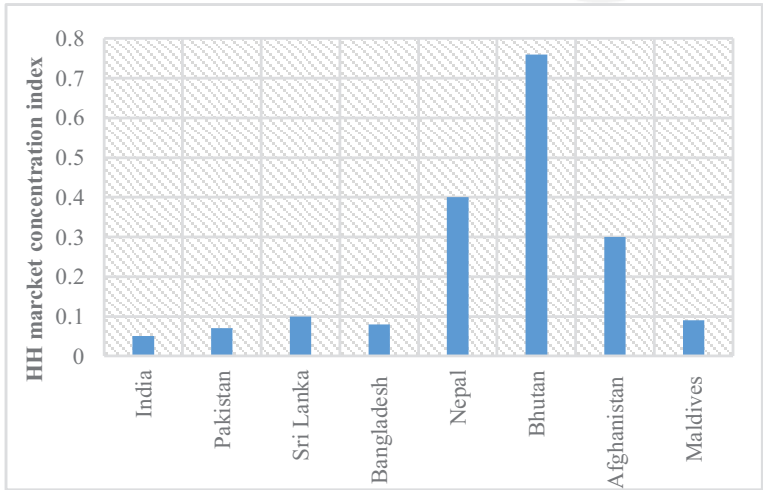
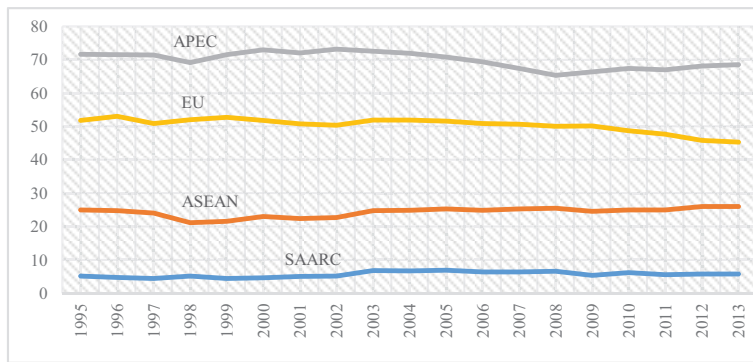


Figure 10. Market concentration in South Asia. Source: World Integrated Trade Solution Online Database [33].

world trade over the same period. The trade-oriented development strategies of Southeast Asian countries have rapidly transformed the economies of that region. Additionally, the Asia-Pacific regional trade share remains around 70%, signifying strong regional integration (Figure 11). Conversely, South Asia is the fastest growing region in terms of external trade. This regional trend indicates willingness to trade externally, limiting trade with neighbouring countries and confirming less regional integration.

The poor regional integration impedes investment opportunities, diverts markets due to poor technology and information flow and restricts economies of scale. Clearly, closer integration is vital to the development of the economies in South Asia. Furthermore, strong regional integration is





**Figure 11.** Intra-regional trade in goods and services (percentage share). Source: UNCTAD Stat online database [37].

essential to the reduction of poverty and inequality among the countries of South Asia, which comprises both economically lagging and leading countries. Intra-regional trade is the foremost tool with which to strengthen regional integration leading to a reduction in economic inequality. Similarly, improved trade leads to economic growth and thus significantly contributes to reduce the persistent poverty in the region.

Progressively tariff and non-tariff barriers to trade in South Asia have declined due to favourable trade negotiations. However, the region still faces enormous trade impediments. Ghani and Din [38] and Banik and Gilbert [39] have argued that tariff reforms alone, though important, are insufficient to optimising the potential contribution of trade on the development agenda. Regional welfare concern is uncertain and traders may be confronted by hidden non-tariff barriers which increase TTCs. Thus, TF is fast becoming a fundamental issue in the new global trade-driven economy and constitutes a major concern of the second-generation trade policy agenda.

There is consensus among trade economists that poorly facilitated trading systems form a major impediment to economic connectivity among South Asian countries. The World Bank [40] emphasised that South Asia's true growth potential has not been realised due to the lack of market integration within and between countries, as a result of excessive transportation costs and lack of connectivity between countries. Roy and Banerjee [21] highlighted the importance of increasing connectivity between South Asian countries. Poor connectivity that prevents economic exchange is a fundamental impediment to the regional development. Wilson and Ostuki [35] advocated the importance of measures to increase trade and reduce logistics costs in South Asia, since these are the most important steps to promoting intra-regional trade and economic integration. De [41] argued that improved TF not only promotes regional trade but also strengthens the trade capacity of the landlocked countries. This indicates that TF is the primary key to enhance connectivity among countries and reduce the gap between leading and lagging economies in South Asia. The subsequent sections discuss the major TF issues of South Asia and its impact on poverty.

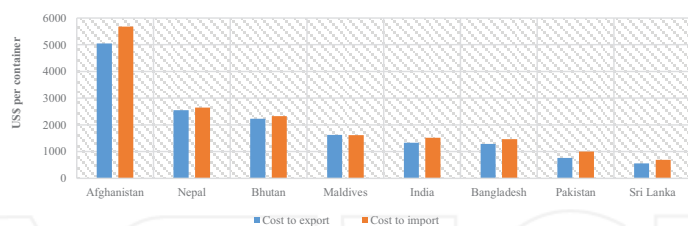
### 3.4. Trade Facilitation and economic growth in South Asia

It is essential that South Asia can stimulate further growth in trade, in order to strengthen regional integration and enhance economic growth among economies in the region. TF is one of the keys to improve regional trade and enhance these economies.

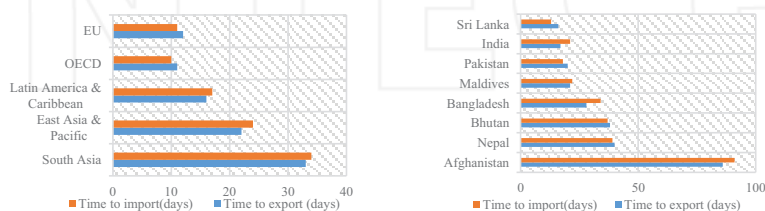
#### 3.4.1. Trade Transaction Costs and Trade Facilitation in South Asia

Poor TF leads to increased time and costs associated with trade transactions, as discussed in the theoretical section in this chapter. Generally, South Asian countries incur high TTCs when goods move across borders. According to the Doing Business report, trading in landlocked countries is more costly. Trade in Afghanistan is most costly, followed by Nepal and Bhutan (**Figure 12**). South Asia experiences insufficient TF which generates high TTCs, in terms of both direct (charges) and indirect costs (delays).

Furthermore, trade costs are positively correlated with the time associated with goods and services moving through borders in South Asia. Generally, South Asia undergoes unnecessary time delays at borders, as well as behind the borders. In comparison with other regions, time to trade is higher in South Asia (**Figure 13A**). TTCs associated with export and import procedures in South Asia are more than 50% higher than in the developing countries in East Asia and the Pacific. The disaggregated data related to time to trade in South Asia explain that Sri Lanka is the leading country which shows the shortest time involving exports and imports, followed by India and Pakistan. Time to trade in these countries is more or less comparable with time taken to trade in developed countries such as EU and OECD. However, Afghanistan recorded the



**Figure 12.** Costs of trading in South Asian countries. Source: Doing Business Report [42].



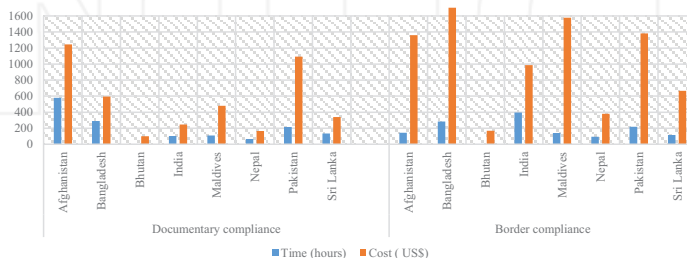
**Figure 13.** (A) A comparison of time to trade in South Asia with other regions. (B) Time to trade in South Asian countries. Source: Trade Costs Database [43]<sup>1</sup>. <sup>1</sup>Note: Latin America and the Caribbean and East Asia Pacific included only developing countries and data pertaining to 2014.

longest period taken for trade transactions, showing a substantial deviation from other countries in the region, and causing regional average time to trade to rise (**Figure 13B**).

Trade delays in South Asia lead to increased TTCs. For exporters, transaction time plays a major role in competing in international markets. According to Arnold [3], the textile industry in South Asia is a good example of the potential risk of not making timeous deliveries. For this reason, Bangladesh and India are willing to use expensive airfreight to prevent textile shipment delays and avoid the risk of losing clients. This confirms that time delays are more costly affairs in South Asia.

Several factors may increase TTCs at borders in the South Asian region. Requirements of several signatures for the same transaction, and the number of documents needed to be submitted increase TTCs. Time and costs involved with documentations and border clearances thus cause cost increases (**Figure 14**). Complicated documentation requirements and other outdated customs procedures frequently exceed tariff costs [13]. The greater the documentation, the longer it takes for clearance, generating higher TTCs. **Figure 14** clearly reveals the positive correlation between time and costs during the process of documentary and border compliance.

Engman [13] has cited a survey conducted by World Bank [44] which indicated that South Asia is worse affected by customs and foreign trade regulations compared with other regions. The report highlighted that two-thirds of companies in South Asia faced major or moderate trade obstacles in their businesses. Time required for documentation is excess in Afghanistan and Pakistan followed by Bangladesh, indicating complicated customs procedures (**Figure 14**). Hertel and Mirza [45] state that while Thailand and Singapore authorities take a few hours to clear a vessel, a similar task in Bangladesh ports takes 2 or 3 days. Engman [13] cited a study by the Asian Development Bank (ADB) [46] that Bangladesh's garment exports could earn 30% more if port inefficiencies such as poor management, corruptions and restricted port capacity were removed. As Wilson and Ostuki [35] discussed, these delays of documentation preparation are due to a lack of standard documentation system. They cited a study Research and Information System for Developing Countries (RIS) [47] to demonstrate that India-Bangladesh border compliance needs at least 22 documents, more than 55 signatures and a minimum of 116 copies for final approval. This

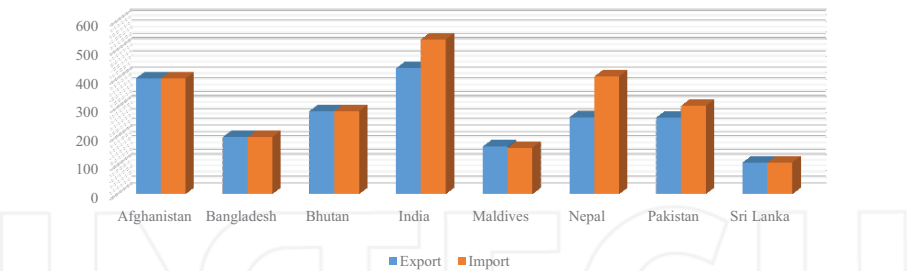


**Figure 14.** Time and costs involve in documentary compliance and border compliance for cross-border trading (exports + imports). Source: Doing Business Report [42].

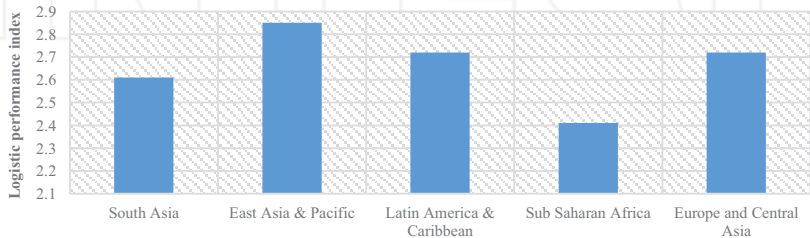
contributes to the South Asian trend to trade with developed countries, due to the low documentary requirements and transaction times, compared with neighbouring countries.

Regional integration depends on connectivity, efficiency and speed with which goods and services move from production centres to consumer markets [48]. Thus, transportation time and costs play a vital role. In addition to the inefficient and drawn out customs practices and poor facilitation at borders, inadequate road and transport infrastructure increase TTCs in South Asia. According to **Figure 15**, domestic transport involved in exports and imports in India is very expensive compared to other countries in the region. Further, landlocked countries show more expensive domestic trade transport. This may be a result of an overabundance rules and regulations imposed by neighbouring countries during the transshipment. Wilson and Ostuki [35] discussed the fact that the lack of current integrated transport networks poses a critical problem for landlocked countries, as improvements will increase cargo shipping costs.

South Asia demonstrates a low level of port infrastructure efficiency. Wilson and Ostuki [35] have stated that the region can expect significant gains from improving ports infrastructure and reducing TTCs. Further, a lack of human resources, government standing practices and poor applications of information technology generate inefficiencies that lead to unnecessary transaction delays. These may also become more costly than tariff barriers. **Figure 16** explains the LPI which compares South Asia with other developing countries, in terms of customs efficiency, infrastructure, ease of arranging shipments, quality of logistic service, tracking and tracing capabilities and timeliness. Better logistics performance is strongly correlated with trade of goods and services. Countries with a stronger logistics performance tend to be more



**Figure 15.** Domestic transport costs for exports and imports in South Asia. Source: Doing Business Report [42].



**Figure 16.** Logistic performance index in selected regions. Source: Trade Cost Database [43].

accessible to trade and experience faster economic growth [49]. According to this index, South Asia recorded the lowest values after Sub-Saharan Africa. The poor logistic performance in South Asia is due to poor infrastructure, high customs surcharges, congestions and excessive security checking due to political unrest (especially in India, Pakistan and Afghanistan border crossing).

### 3.4.2. The relationship between Trade Facilitation and economic growth in South Asia

There is a strong relationship between TF and trade in South Asia. Trade is directly linked with economic growth. Economic growth is one of the key factors which can reduce poverty in the long run. A number of studies have found that TF has now become a crucial factor impeding trade, as most other trade barriers (tariff and non-tariff) have been substantially removed.

There is an interrelationship between TF and trade volume and economic growth. Improved TF leads to increased trade volume and a larger trade volume motivates countries to introduce more efficient TF measures. The cost of TF implementation measures is very high and their real benefits are dependent on the volume of trade. Developed countries have more facilitated trade to cope with high volume of trade compared to developing countries. **Table 5** shows that upper middle-income countries perform more facilitated trade compared with low-income countries, such as those of South Asia. This shows that higher-income countries generally exhibit better TF, whereas low-income countries experience poor facilitation.

Empirical estimates revealed that the impact on economic development of improved TF in developing countries exceeds those of developed countries, as TF is positively correlated with per capita income. Further, higher income countries perform better than lower income countries, since they have better infrastructure, logistics and timeliness than developing countries [6, 9, 35, 50]. UN ESCAP [51] also found that improved TF is positively correlated with exports and per capita GDP.

Complicated trade procedures and strong regulatory requirements increase documentation processes required for trade transactions. However, in South Asia, insufficient customs and port-handling procedures, poor use of information technology and transit barriers feature as major aspects of TF, causing additional TTCs. Border transaction costs in South Asia can be as much as 50% higher than the developing countries of East Asia and the Pacific. This worsens in landlocked countries, which recorded the greatest time taken for trade transactions due to

	No of documents Exports	No of documents Imports	Time to Exports (days)	Time to Imports (days)	Logistics Performance Index
Low income	8.23	9.91	40.24	46.78	2.32
Lower middle income	7.42	8.18	27.47	31.42	2.5
Upper middle income	6.51	7.41	20.81	23.61	2.76
South Asia	8.34	9.47	33.05	34.73	2.46

Source: Based on UN ESCAP [51]

**Table 5.** Trade Facilitation by income levels and South Asia.

border transit restrictions. Landlocked countries thus exhibit less regional and global trade connectivity, due to limited physical connectivity. This encourages informal trade which takes place via routes of greater distance such as Dubai and Singapore. This incurs higher TTCs both directly and indirectly.

Export-oriented industries in South Asia thus must overcome inherent limitations, in order to compete in international markets. Resources are not always used efficiently in trade transactions. Due to a lack of transparency and reliability in regional trading systems, export products in South Asia are limited to a few commodities. More time-sensitive product exports are not directed to long-distance markets and/or not traded at all on international markets. Further, intra-regional trade in South Asia itself is very limited and as a result the region tends to do more trading with developed countries. This has two negative consequences. Firstly, trade outside the region increases transportation costs, and secondly, the region has greater vulnerability to global economic recessions.

Consequently, poor TF impacts negatively on trade volumes of both exports and imports. Reducing international trade would increase unemployment, by restricting the development of a complete supply chain. Further, poor TF systems reduce government revenue received from trade taxes. Consumers face higher prices and producers suffer from a reduced comparative advantage. Overall, the economy would experience a slower or negative growth, maintaining and even increasing the persistence of poverty. Improved TF would lessen these problems and produce higher returns through faster deliveries and lower costs. It is clearly evident that there exists a positive relationship between TF and economic growth in South Asia. Thus, TF must emerge as the dominant force for enhancing economic growth.

It is further evident that trade restrictiveness is mainly due to poor TF and this has become a major concern of the second-generation trade policy agenda. Recent trade research has shown the importance of eliminating TTCs through better TF, in that TF contributes effectively to overall economic development.

## **4. An overview of Trade Facilitation programmes in South Asia**

Greater attention has been paid to TF policies in developing countries, which have mostly been unable to meet their trade expansion targets, despite trade liberalisation. Various TF initiatives have been implemented in South Asia under the umbrella of several institutions. Recently, WTO became the only multilateral institution to have implemented the Trade Facilitation Agreement (TFA). SAARC (South Asian Association for Regional Cooperation) is South Asia's major body for regional cooperation and focuses on the promotion of TF measures within the region. Apart from these two major global and regional initiatives, there are several sub-regional bodies which have implemented several TF programmes to promote regional trade.

### **4.1. WTO Trade Facilitation Agreement**

The World Bank is the leading multilateral organisation actively involved in promoting TF in developing countries. WTO TFA has been implemented in member countries with effect from February 2017. There are three main objectives to the agreement:

1. Provisions for expediting the movement, release and clearance of goods
2. Measures for effective cooperation between customs and other authorities
3. Provisions for technical assistance and capacity building

TFA has three sections. Section I contains the provisions to clarify and improve the three articles of the General Agreement on Tariffs and Trade (GATT), that is, Articles V, VIII and X. Article V provides for the freedom of transit of members through fellow member territories. WTO members are permitted to use the most convenient routes through the territory of other members for transit. This shall not be subjected to traffic in transit and commitments, including no customs and transit duties or other charges imposed at the transit to ensure the elimination of unnecessary delays or restrictions. This provision also ensures that all essential charges are reasonable and Most Favoured Nation (MFN) treatment should be the governing principle for all charges imposed on traffic in transit. The provisions of Article VIII contain the fees and formalities applicable to importation and exportation. The implication here is to restrict members to levy fees and charges that represent solely the approximate costs of the service delivered. Fees and charges for importation and exportation should not incorporate indirect protections or fiscal benefits such as import taxation. Article VIII further ensures the imposing of reasonable penalties for breaching customs regulations or procedural requirements and a commitment to minimise import/export documentation. The major provisions of Article X relate to the publication and communication of trade regulations and demand the prompt publication of laws, regulations, judicial decisions and administrative rulings affecting imports and exports. This provision thus enables partner governments and traders to immediately access such rules and regulations. Members shall further commit to publish details of new or more burdensome requirements and restrictions or prohibitions on the transfer of payments, prior to enforcement of such changes. Laws and regulations should be impartial and reasonable.

Section II contains special and differential treatment (SDT) provisions, allowing developing and least developed countries (LDCs) to determine when they will begin implementation of specific provisions of the agreement and to identify which provisions will only be implemented after technical assistance and support for capacity building. Section II also highlights that in order to qualify for the benefits of SDT, a member must categorise each provision into one of three categories:

Category A: provisions that the member will implement by the time the agreement takes effect, or in the case of a least-developed country member, within 1 year of the effective date.

Category B: provisions that the member will implement after a transitional period.

Category C: provisions that the member will implement on a date after technical assistance and support for capacity building.

Section III includes provisions for an institutional framework to establish a permanent committee on TF at the WTO and requires members to establish a national committee to facilitate domestic coordination and implementation of the provisions of the TFA [52].

It is estimated that the TFA will reduce global trade costs by an average of 14.3%; African countries and least-developed countries are projected to enjoy the biggest average reduction in



trade costs. The full implementation has the potential to reduce the average time needed to import by 47%. Cuts in export time are predicted to achieve a 91% reduction from the current average [1]. Further, the WTO has reported that the TFA will increase exports of existing traders and encourage new firms to export for the first time. The TFA is expected to contribute to world annual export growth and GDP growth by 2.7 and 0.5%, respectively. Developing and least developed countries are expected to enjoy two-thirds of all benefits after full implementation of the TFA [1].

#### *4.1.1. TFA commitments in South Asia*

TF programmes undertaken by South Asian countries, with respect to WTO TFA, can be assessed on the basis of publicly distributed evidence. Due to the lack of available information on South Asian TF programmes, this section is based on the few reports published online. The following section discusses the TFA commitments of South Asian countries.

##### *4.1.1.1. Commitments for the provisions of freedom of transit (Article V)*

Article V is more crucial for the landlocked countries as they face higher TTCs in transit. According to Weerakoon et al. [53], India and Nepal have included several provisions regarding exceptions to non-discrimination of sensitive goods which require transshipment, regional transit agreements and the use of international standards. The two parties have agreed to provide new measures for simplifying the procedures of clearance of containerised traffic in transit. Chaturvedi [54] reported that Customs authorities in India have started to implement programmes on the further simplification of transit procedures. According to this report, there is no tax, duty or cash deposits for transit of goods in India. India also signed a formal treaty with Bhutan in 1995, in order to accommodate transit facilities and a similar treaty is expected to be signed with Afghanistan.

The relevance of provisions of transit measures established in Article V is very limited for Bangladesh which is geographically not proximate to any landlocked countries. However, Chaturvedi [54] highlighted that Nepal and Bhutan (landlocked countries in South Asia) are willing to use Chittagong and Mongla sea ports in Bangladesh. As reported by Weerakoon and Thennakoon [53] and Chaturvedi [54], there are no specific measures related to Article V that have been implemented by the Bangladesh government.

In accordance with Article V, Sri Lanka has made considerable efforts towards express clearance of goods in transit and the government has established a policy of non-discrimination for transit goods to simplify clearance. Sri Lanka is further considering the acceptance of guarantees on the clearance of goods in transit [54]. Pakistan has also committed to the rapid clearance of transit goods.

##### *4.1.1.2. Provisions for fees and formalities connected with importation and exportation (Article VIII)*

According to Chaturvedi [54], importation and exportation fees and charges are clearly defined and published on the Internet in Bangladesh. Additionally, an electronic data interchange (EDI) system has been introduced under the customs modernisation plan. There are



several programmes which have been introduced by the Bangladeshi government in committing to Article VIII. These programmes include (i) the introduction of a self-assessment and rapid clearance procedure, (ii) simplification of tariff structures, (iii) customs modernisation with the objective of increasing the efficiency of customs clearance and (iv) simplification of documentation procedures [53].

The system EDI was established in Sri Lanka in 2004 under a project titled Sri Lanka Automated Cargo Clearance System (SLACCS), fulfilling the major provisions for technological improvement in trade procedures [55]. According to the National Strategies for Regional Integration Report (NSRI), EDI facilities must provide for the electronic submission of import/export documents. Chaturvedi [54] reported that there is a growing demand for transparency and non-discrimination in fees and charges in Sri Lanka with the provisions of online payments procedures. This report also indicated that Sri Lanka has simplified documentation and declarations with single window clearance procedures.

Nepal has also made considerable efforts to comply with Article VIII, which does away with charges to traders for the provision of information and makes most trade-related information freely available [54]. They have introduced a new custom declaration form and a single administrative document to facilitate trade. Further, Nepal has introduced a system to reduce documentation requirements and is progressing in the use of information technology for cargo handling [53].

Pakistan has introduced an electronic assessment system (EASY) in 2000 to reduce the customs clearance time and provides online billing system for exports and imports. It is no longer required to present billing forms at Customs and an E-form number is sufficient. Chaturvedi [54] reports that Pakistan has introduced a single administrative document (good declaration form) for both exports and imports, as well as a customs computerised system (PACCS) under the customs administrative reforms. The report also indicates that India has substantially reduced the number of documents and number of copies needed for exports and imports; efforts have been made to avoid duplication information collections by Customs. In order to enhance coordination between border agencies, a broad institutional network has been introduced. The report further indicates that India operates a system for publishing release and clearance data quarterly. India has prioritised systematisation of customs codes (HS codes) at the eight-digit level for facilitating trade.

#### *4.1.1.3. Publication and communications of trade regulations (Article X)*

Sri Lanka has made a considerable progress in publication of trade regulations. Most trade regulations are available online and information related to penalties, customs appeals and judgements are accessible via the government gazette [54].

In Nepal, laws, regulations, administrative rulings, documentary requirements, standing practices and tariff classifications are available on the Department of Customs website. Weerakoon et al. [53] indicated that Nepal plans to appoint an institutional body responsible for ensuring transparency and has developed Inland Customs Depots at three border points (Birgung, Biratnagar and Bhairahawa) to reduce the time and cost of customs procedures. Nepal has

established a client help desk, call centres and trade counters to give assistance. In addition, a rulings and appeals system has been introduced [54].

India offers advance rulings for classification, valuation and application for duty exemption related to exports and imports of production and manufactured goods. India uses electronic media extensively for disseminating information [53] and a risk management system has been introduced at all customs points [54].

The Bangladeshi government supplies all the information related to trade but customs charge for providing information relating to rules and regulations at a flat rate. Details of such procedures and entry duties are available on the Internet [54]. The report indicates that the Bangladeshi port authority has initiated single-step service to reduce documentation and clearance time.

Pakistan has made laws, regulations and most administrative guidelines available on the Internet. The country has implemented a tracking system using an electronic seal and application numbers to facilitate paperless trade transactions and single window clearance [54].

## 4.2. Regional initiatives

According to the WTO [1], there is a rapid growth of number of regional trade agreements (RTAs) with TF provisions. This trend reflects the expansion of RTAs in both developing-developing (South-South) countries and developed-developing countries (North-South). The RTAs TF provisions cover most areas which have not been covered by TFA [1]. RTAs in South Asia are paying particular attention to regional TF issues. A regional integration agenda eliminating tariff and non-tariff barriers can never succeed without proper TF, because poor TF keeps entrepreneurs away from taking advantage of opportunities across borders in comparison with tariff barriers [21]. There are numerous RTAs in effect which cover the South Asian region, sub-regions and bilateral negotiations. Section 4.2.1 discusses few major RTAs and their provisions of TF.

### 4.2.1. South Asian Free Trade Area (SAFTA)

Recognising the importance of strengthening economic cooperation among South Asian countries, governments of the SAARC signed the South Asian Free Trade Area in 2004, as a transition to the South Asian Preferential Trade Agreement (SAPTA). Adoption of a standardised TF by member countries is one of the objectives of SAFTA [56].

Article 8 of this agreement establishes several additional recommendations for TF adoption which include

- a. Equalisation of standards, mutual recognition of testing and accreditation of testing laboratories of member countries and certification of products.
- b. Simplification and harmonisation of customs clearance procedure.
- c. Harmonisation of national customs classification based on HS coding system.
- d. Customs cooperation in resolving entry point disputes.

- e. Simplification and harmonisation of import licensing and registration procedures.
- f. Simplification of banking procedures for financing imports.
- g. Transit facilities for efficient intra-SAARC trade, especially for landlocked countries.
- h. Removal of barriers to intra-SAARC investments.
- i. Macroeconomic consultations.
- j. Rules for fair competition and the promotion of venture capital.
- k. Development of communication systems and transport infrastructure.
- l. Making exceptions to foreign exchange restrictions, if any, relating to payments for products under the SAFTA scheme, as well as repatriation of such payments without prejudice to rights under Article XVIII of the General Agreement on Tariffs and Trade and the relevant provisions of Articles of Treaty of the International Monetary Fund (IMF).
- m. Simplification of procedures for business visas.

#### *4.2.2. The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)*

This sub-regional organisation came into force in June 1997 in terms of a declaration made in Bangkok. This organisation includes seven member states: five from South Asia (Bangladesh, Bhutan, India, Nepal and Sri Lanka) and two from Southeast Asia (Myanmar and Thailand). BIMSTEC has also implemented several TF promotional programmes in order to promote free trade among members. They have identified areas such as transport and communication sector development as priority commitments. However, this agreement does not provide any special provision for TF [21, 54]. International agencies such as the Asian Development Bank provide technical assistance to BIMSTEC in developing policies and strategies to enhance physical connectivity and to develop a regional TF [57].

#### *4.2.3. The South Asia Sub-Regional Economic Cooperation (SASEC)*

In addition to these two major intra-regional initiatives, there have been several sub-regional interactions between SAARC countries to strengthen intra-regional trade in South Asia. The South Asia Sub-regional Economic Cooperation focuses on the most significant TF improvements. SASEC was established in 2001 as a project-based partnership to improve cross-border connectivity, boost trade among member countries and strengthen regional economic cooperation. The member countries are Bangladesh, Bhutan, India, the Maldives, Nepal and Sri Lanka. Since 2001, this organisation has contributed to the implementation of 44 regional projects (\$9.05 billion) in energy, transport, TF, economic corridor development and the information and communications technology sectors (SASEC). ADB administers the SASEC Program. SASEC has established a TF Strategic Plan for 2014–2018, aiming to boost intra-regional trade through the reduction of time and costs. The TF strategic framework focuses on five priority areas:

1. **Customs modernisation and standardisation:** This includes simplifying and expediting border formalities to facilitate the movement of goods, vehicles and people; increase the application of information and communication technology processing and developing a national single window system that would link all border agencies with the trading community.
2. **Standards and conformity assessment strengthening:** This aims to identify sanitary and phytosanitary (SPS)-sensitive commodities and strengthen the National Conformity Assessment Board.
3. **Cross-border facilities improvement:** Establishing logistics facilities and services at major trade ports to facilitate trade.
4. **Through transport facilitation:** Develop a pilot bilateral transport facilitation arrangement.
5. **Institution and capacity building:** Enhance cooperation and coordination mechanisms among stakeholders to improve TF.<sup>2</sup>

SASEC has prioritised customs modernisation and harmonisation, as well as institution and capacity building during the first 2 years of the TF strategy.

In general, entire TF implementation programmes in South Asia proceed with similar objectives. However, the TFA implemented by WTO is focused only on simplification and harmonisation of trade procedures at borders to increase global trade, while other regional TF agendas target both border issues and behind the border issues including hard infrastructure developments, in order to stimulate intra-regional trade. However, it is very difficult to identify which TF measures are most efficient and have contributed to boost trade in the region. TF implementation programmes are no easy mission since the need for investment spending is immense. Bayley [57] also highlighted that the improvement of TF is a slow laborious process. Efforts to achieve regional implementation targets have greater complexity and thus are more difficult to meet than national goals. Similarly, regional initiatives take longer to meet targets.

## 5. Concluding remarks

A facilitated trading system is a key to expanding trade. Trade is a foremost factor in achieving economic growth. Thus, efficient TF measures have the potential to enhance economy. South Asian trade is impeded by serious TF issues. As discussed in this chapter, South Asian TTCs, both direct and indirect, are relatively high. Obviously, traders are distressed by border delays which add further costs above direct charges for acquiring information, documentation costs, charges for logistic services and customs brokers and the customs clearance fees which increase with outsourcing to service providers. Such charges increase when border facilitations are insufficient and complicated.

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<sup>2</sup>SASEC Trade Facilitation Strategic Framework 2014–2018 ([http://www.sasec.asia/uploads/news/sasec\\_tradefacilitation\\_strategic\\_framework.pdf](http://www.sasec.asia/uploads/news/sasec_tradefacilitation_strategic_framework.pdf))

Complex regional trade procedures and administrative barriers have led to laborious documentation to process trade transactions. Insufficient customs procedures and port handling, ineffective use of information technology and transit barriers are few of the major TF issues facing South Asia. Such barriers to trade affect landlocked countries more adversely, as trade by these countries faces additional red tape imposed by transit governments. The landlocked countries exhibit fragile economic growth leaving their poor among the poorest in the region. This has led to substantial regional disparities. Conversely, despite its position as regional leader in economic development, India is the home of the majority of the poor in the region. This chapter has ascertained that if the region could deliver trade goods and services across its borders on time and with minimum costs, it would increase export competitiveness and promote imports. Therefore, it is essential that South Asia can stimulate further growth in trade, in order to increase economic development and reduce poverty lags among the economies of the region. TF is one of the keys to improving regional trade and strengthening economies. There are several TF initiatives which have been implemented to bolster regional trade. WTO TFA is one of the mammoth implementation programmes currently being undertaken. In addition, there are several regional TF programmes active. However, further research is essential to identify which TF measures are more efficient for boosting trade across the region.

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