THE TRADE AND POVERTY NEXUS IN SOUTH AFRICA: INVESTIGATING THE TRANSMISSION MECHANISM AND THE ASSOCIATED CHALLENGES

A thesis submitted in fulfilment of the requirements of the degree

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ABSTRACT

"Globalisation has made us more vulnerable. It creates a world without borders, and makes us painfully aware of the limitations of our present instruments, and of politics, to meet its challenges."

Anna Lindh

International trade plays an essential role in economic development strategies. In literature, foreign trade is identified as a driver of economic growth. In recent times there has been an expansion in the scope of investigations around the role of international trade to include its links with poverty alleviation. Poverty alleviation is explicitly identified as the first goal on the 2030 agenda for sustainable development under the Sustainable Development Goals and implicitly defined in goal 10. International trade is seen as the engine behind achieving the goal. South Africa records excessive poverty and inequality levels by international standards for a middle-income country. The most recent Poverty Trends Report for 2006 - 2015 reports 55.5% of the population living in poverty. Inequality statistics reported a per capita expenditure Gini coefficient of 0.65 in 2015, evidence that the country has high levels of inequality. The country's severe poverty, unemployment, and inequality prompt policymakers to formulate developmental policies around the underlying structural challenges. Trade openness has increased since the end of the Apartheid era. Despite the increased trade openness, economic growth has been insufficient in reducing the high unemployment and poverty levels, presenting a challenge for economists, who argue that trade openness is pro-growth and pro-poor. In the South African case, the lack of change in the structural challenges of poverty, unemployment and inequality has raised concerns over whether the trade policy reforms made since 1994 interfere with development objectives. This study aims to investigate the impact of trade liberalisation on poverty, using the three channels, namely enterprise, distribution, and government that have been researched within the McCulloch, Winters and Cirera framework. Specifically, it investigates the linkages via the transmission mechanism in which trade affects poverty in South Africa by mapping the transmission mechanisms from trade liberalisation to poverty alleviation, whilst identifying the possible challenges to the transmission mechanisms and lastly, analysing the stylised facts around trade and poverty in South Africa. To answer the question of this study, quantitative data from National Income Dynamic Study (NIDS) was merged longitudinally and aggregated with the industry tariff data sourced from the World Trade Organisation (WTO) and United Nations Conference on Trade and Development (UNCTAD) statistics. A path analysis was undertaken to map the transmission mechanism, whilst descriptive statistics were used to identify the possible associated challenges. The results show that the most significant channel of transmission are the enterprise and distribution channel. However, the effects are of a small margin and a more comprehensive trade policy yield a higher margin of poverty alleviation.

DECLARATION

This thesis has not been submitted to a university other than Rhodes University, Makhanda, South Africa. The work presented is that of the author and all references have been accurately recorded.

DEDICATION

For my late grandparents: Mr R and Mrs K Bhebhe. For them, education was always a first priority, always encouraging and supporting our schooling endeavours.

Your charisma, wit, generosity and humour will always be missed.

Forever loved.

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CHAPTER 1 INTRODUCTION

1.1 Introduction

According to Barraud and Calfat (2008), the ongoing engagement in trade liberalisation encourages countries to decide their economic policies around the trade agreements. These policy choices will directly or indirectly have an effect on individuals and households, resulting in some winners and some losers (Pavcnik, 2019). In addition, if those adversely affected are individuals who live below the socioeconomic standard, there will be direct implications on the development of the country (Barraud and Calfat, 2008).

Le *et al*., (2019) find that there is ample literature focusing on the relationship between trade liberalisation and household welfare, using "conditional mean relationships based on classical linear regression models". For example, studies by Ravallion (2006) and Seshan (2005) conclude that trade liberalisation affects the households in a similar manner. However, households of different income levels may be affected at different levels, with richer households standing to gain more than the poorer households.

Trade liberalisation and poverty studies have vast literature on how poverty can be reduced through macroeconomic channels, with the most popular channel being via economic growth. Kraay (2006) suggests that for periods of seven years and more, economic growth is the largest determinant of whether a country is successful in its poverty reduction agenda. This makes the trade liberalisation and poverty debate relevant, for trade liberalisation will boost economic growth (Winters and Martuscelli, 2014).

Accordingly, one of the key development strategies employed by a country is increasing its trade liberalisation engagement, as it is a significant factor influencing economic growth (Van der Berg, 1996; Smith and Kulkarni, 2010; Zahonongo, 2017). More recently, there has been an expansion in the scope of investigations around the role of trade on poverty alleviation, not just at a macroeconomic level but also at a microeconomic level (Dollar and Kraay, 2004; World Trade Organisation and World Bank Group, 2018; Osakwe, 2017; Freund and Koopman, 2019; Yameogo and Omojolaibi, 2021). When a country engages in trade, poverty levels are expected to decline, provided there are comprehensive efforts to lower trade costs and trade barriers between trading countries (World Bank, 2015). Le *et al*., (2019) find that in the case of Vietnam, trade liberalisation significantly affects household welfare. Their findings are in line with McCulloch *et al*., (2001), Winters (2002) and Winters *et al*., (2004) who state

that the impacts of trade liberalisation on poverty is multi-channelled. These channels will be explored in this thesis.

Trade openness has increased since the end of the Apartheid era (Cattaneo and Dodd, 2007). With the increased trade openness, economic growth has been insufficient in reducing the high unemployment and poverty levels, presenting a challenge for economists, who argue that trade openness is pro-growth and pro-poor (Magubu and Chitiga, 2007). In the South African case, the lack of change in the structural challenges of poverty, unemployment and inequality has raised concerns about whether the trade policy reforms made since 1994 interfere with development objectives (Thurlow, 2007).

For a middle-income country, South Africa records excessive poverty and inequality levels by international standards (Pauwet *et al.,* 2006), with the most recent Poverty Trends Report for 2006 - 2015 reporting 55.5% of the population living in poverty (Fin24, 2017). Inequality statistics reported a per capita expenditure Gini coefficient of 0.65 in 2015 (StatsSA, 2020), evidence that the country has high levels of inequality. These severe levels of poverty, unemployment and inequality in the country prompts policymakers to make developmental policies around these underlying structural challenges (PMG, 2010).

1.2 Rationale and significance of the research

This research investigates the impact of trade liberalisation on poverty in South Africa, with the main goal being to analyse the connection between trade liberalisation and poverty reduction. The study aims to investigate the linkages via the transmission mechanism through which trade affects poverty in South Africa.

Poverty alleviation is explicitly identified as the first goal on the 2030 agenda for sustainable development under the Sustainable Development Goals and implicitly defined in goal 10, with international trade seen as the engine behind achieving the goal (UNCTAD, 2019). The literature suggests that economies that open up to trade can expect their economies to grow. Furthermore, poverty levels are expected to decline, provided there is a comprehensive effort to lower trade costs and trade barriers between trading countries (World Bank, 2015). It is argued that in the long run, open economies will fare better than closed economies because of development through more significant foreign trade (Goff and Singh, 2014; Winters *et al*., 2004; Anderson, 2020) and greater efficiency in the economy through resource allocation,

leading to economic growth (Arce *et al*., 2014). The expected result is that economies stand to achieve virtuous circles of faster technological progress, competitiveness, rise in exports and rapid output growth (Blecker, 2010).

There has been much debate on the possible effects of trade liberalisation on development but an area that needs further investigation is around the transmission mechanism; how exactly trade is spilling over into the economy at a microeconomic level. South Africa has high poverty levels for a middle-income country by international standards (Pauw, Leibrandt, Edwards and Dieden, 2006), with the latest Poverty Trends Report 2006 to 2015 reporting 55.5% levels of poverty (Fin24, 2017). This severe nature of poverty, unemployment and inequality in the country is the reason why policymakers make developmental policies around these underlying structural challenges (PMG, 2010). Given that the country has undergone significant liberalisation since 1994 (Cattaneo and Dodd, 2007), a Report of the Portfolio Committee on Trade and Industry on South African Trade Policy and Strategy Framework (2010) states that trade liberalisation did not yield the desired outcome (PMG, 2010). Mabugu and Chitiga (2007) state that even though South Africa has undergone such liberalisation in trade and opened up the economy to globalisation, economic growth has been insufficient in terms of reducing the high unemployment levels and has been coupled with rising poverty levels in the country, as well as a rise in inequality. The existence of trade liberalisation and the lack of change in the structural challenges faced, has raised concerns that the trade policy may have worked against the development objectives (Thurlow, 2007).

Existing literature in South Africa, investigates the effects of trade liberalization on employment, wages, consumption and household welfare at a national and firm level (Bell and Cattaneo, 1997; Thurlow, 2006; Mabugu, 2007; Bhorat *et al*., 2017; Lepelle *et al*., 2017; Edwards *et al*., 2018; Lepelle and Edwards, 2020). Some studies found that a total removal of the tariffs resulted in a negative impact on poverty in the short run and a positive impact on poverty in the long run (Mabugu, 2007) with some gendered effects (Lepelle and Edwards, 2020). South Africa has high levels of inequality, hence national level studies may indicate different results from household level studies. Therefore, this study aims to fill this gap in the literature by investigating the effects of trade liberalization in South Africa on household poverty using household level data.

South Africa's central economic policy strives to create inclusive growth and employment while maintaining financial stability through its fiscal objectives. Structural challenges were identified through the National Development Plan (NDP, 2012) and objectives were developed to eradicate poverty and reduce inequality in South Africa by 2030. The NDP converges with the UN Sustainable Development Goals and prioritises job creation, eliminating poverty, reducing inequality, and ensuring a growing inclusive economy. The focus is to build the capabilities of the country's population and enhance the capacity of the state to attract investments. Moreover, central to meeting the NDP vision are policies such as the New Growth Path and Industrial Policy Action Plan, formulated to address broad levels of economic activity. As a result, South Africa's trade policy has a vital role to play in achieving these economic development goals. The development objectives that focus on poverty and inequality reduction through economic growth and exports are South Africa's priority. Hence, the importance of this study for trade liberalization and poverty studies falls under development economics which could aid South Africa in achieving its fundamental economic goals. Using trade liberalisation as a developmental tool could result in South Africa's economy growing faster, improving productivity whilst providing higher income and opportunities for its people. The lower-income households will afford the goods and services, ultimately reducing poverty.

1.3 Research goal and objectives

This research aims to critically investigate the impact of trade on poverty in South Africa, with the main goal being to analyse the connection between trade liberalisation and poverty reduction. The study aims to investigate the linkages via the transmission mechanism through which trade liberalisation affects poverty in South Africa. In order to explore the research goal, three objectives are explored:

- Analysing the stylised facts around trade and poverty in South Africa.
- Mapping the transmission mechanisms from trade liberalisation to poverty alleviation in South Africa.
- Identifying possible challenges to the transmission mechanism from trade liberalisation to poverty alleviation.

1.4 Outline of chapters

This thesis contains six chapters in total. Chapters 2 to 6 work together to achieve the three research sub-goals.

- Chapter two gives a review of the literature that is relevant to this research study. The literature review includes discussions around understanding what trade liberalisation is and the theoretical approaches around the phenomena. The chapter then discusses poverty and its theoretical approaches, followed by a discussion on why the trade and poverty link matters. There is a detailed discussion of the McCulloch et al., (2001) theoretical framework, the main theoretical framework for the study. The chapter then concludes with exploring some empirical studies.
- Chapter three addresses the first goal of the research, analysing the stylised facts around Trade and Poverty in South Africa.
- Chapter four describes the methods used during this research to obtain the data as well as the process of mapping the transmission mechanism.
- Chapter five addresses the results and findings in relation to the transmission mechanisms, identifying the possible challenges to the transmission mechanism.
- Chapter six is a synthesis chapter that discusses the findings of this research in relation to the goal and objectives of this research. The main findings are presented in this Chapter.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

According to Hart (2018) and Webster and Watson (2002), a literature review analysis critically evaluates and synthesises existing knowledge to a research problem. The review's purpose is to gather concepts and leading theories in the field of study, which is factored into the writing of the thesis. It explores work that has been previously done to introduce the topic to the reader and demonstrate the history, how the study has developed, and giving way to recognising the critical future debates that need further investigation (Hart, 1998; Rozas and Klein, 2010).

The importance of this chapter is that it sets the stage for understanding the theoretical framework around trade liberalisation and poverty studies. It will aid in discovering important variables for the study and gaining a new perspective of the topic whilst establishing the context of the research problem (Hart, 1998; Majam and Theron, 2006). Above all, there will be understanding acquired for both the researcher and the reader of the thesis.

The literature review chapter will be undertaken by running a string of searches for peer-reviewed academic journal articles and e-books on the Rhodes University Library website, which links to different databases such as EBSCOhost, Sabinet, Google Scholar, Emerald Insight and many others.

This chapter proceeds as follows:

Section 2.2 introduces the concept of trade liberalisation, together with the advantages and disadvantages of liberalising trade. The section further explains the theoretical approaches around trade liberalisation. Section 2.3 provides some of the theoretical approaches to poverty as well as the concepts and measurements of poverty. Due to the multidimensional factor of poverty, a few definitions and measurements relevant to trade liberalisation and poverty studies are discussed. Section 2.4 explains the trade-poverty link, its significance and the theoretical approaches used to analyse the link. Thereafter, Section 2.5 reviews some empirical studies

on trade and poverty studies so as to gain some insights that are relevant to this study. Finally, Section 2.6 concludes this literature review.

2.2 Understanding Trade Liberalisation

Trade liberalisation gained momentum after the second world war among the industrialised countries, spreading to the developing countries only in the 1970s. Although trade reforms further expanded and consolidated in the 1980s and 1990s in the developing countries, in the 1990s the results of these reforms varied and sometimes fell short of the expectations (Sachs and Warner, 1995). Trade liberalisation is defined as the reduction or removal of tariffs and non-tariff barriers in the flow of goods and services across countries (Nicita *et al.,* 2014). Lumina (2008) suggests that trade liberalisation advocates such as Balassa (1965), Krueger (1998), Greenway (2003), Santos-Paulino (2005), and Paudel (2014) argue that the engagement of trade liberalisation will lead to increased economic growth, economic efficiency, low market prices that benefit the consumers, and comparative advantage in the economy, ultimately leading to the alleviation of poverty (Winters, 2004).

Integrating into the world economy has proven to be a powerful means for countries to promote economic growth, development and poverty reduction. This has resulted in the advocacy for trade liberalisation as a critical policy for developing countries to promote economic growth and poverty reduction (IMF, 2001; Winters, 2004; Acharya, 2015). Trade liberalisation has critical implications for the globalisation process. In the emergence of globalisation, the restrictions on flows of goods and services were erased amongst trading countries in order to have positive outcomes in their trade and achieve high levels of economic growth and economic development; getting rid of the constraints came with an increase of effectiveness and competitiveness, technology transfer and a provision of funds, especially as of the mid-1980s (Bayar and Sezgin, 2017).

More recently, the 2030 Agenda for Sustainable Development recognises trade as the driver of inclusive economic growth and poverty reduction (UNCTAD, 2019). Under goal 10 ("reducing inequality within and among countries") and goal 17 ("strengthen the means of implementation and revitalise the global partnership for sustainable development"), trade is one of the factors needed to achieve the goals (UNStats, 2020).

Trade liberalisation is one of the significant pillars of trade policy and, to some extent, industrialisation policy globally for governments worldwide since the mercantilism era (Harisson, 2007; Whipps, 2008). Liberalising trade enables free trade. The ripple effects of this include a country attracting Foreign Direct Investment (FDI) and accelerating industrialisation, especially for developing countries. This results in an increase in employment through the creation of new jobs and thus increasing per income capita and consumption, all positive effects on consumers (Hasan, 2010).

According to Sun and Heshmati (2010), trade liberalisation facilitates economic growth through technological advancement and capital accumulation in the market (Radelet, 1999; Shayanewako, 2018; Sultanuzzaman *et al*., 2019). Liberalisation of trade allows for improved access to different ideas and technologies that will enhance the country's technological capability and assist in productivity, leading to creating new jobs and new skills being cultivated in the industries and the economy.

In essence, static gains of trade liberalisation include increased output, employment, consumption and output per worker. In comparison, dynamic gains include increased foreign investment, expenditure in research and development, industrialisation, and development overall (Hasa, 2010; Acharya, 2015).

On the other hand, the challenges of trade liberalisation include the developing economies being threatened by the developed economies. Established economies may bring competition that will lead to the underdeveloped or new firms in the developing countries to fail to compete and be forced out of business. This gave a rise to protectionist policies, such as the infant industry argument (Hasan, 2010). The theory of infant industry states that there is a need to protect and nurture an industry that is still in its infancy in order for the industry to survive, grow and not be diminished by international competition, for this may be the price to be paid when engaging in trade liberalisation. The theory is a different way of thinking about economic development than the comparative advantage theory (Chang and Andreoni, 2016). The infant industry is underdeveloped compared to the more prominent industries and will lack the production capabilities needed to compete fairly in the market (Myint, 1963). Hence, there is a need to protect the industry through policy measures such as tariff protection, infrastructural development and promotion of technological progress. The protectionist argument is precisely verifiable for developing economies compared to the developed economies that have gone through rapid and high industrialisation.

The critical insight behind this argument is that the infant industry producers will be inferior without protection measures, causing the developing economies to lose out and be the losers in the trade arena, resulting in unemployment (Chang and Andreoni, 2016). For example, East Asian economies used trade protection to encourage investment and productivity in the industries with the potential for technological capability building (Stiglitz, 1996). Fully liberalising trade without protecting infant industries with such substantial potential could limit other countries from taking a similar approach, reducing the opportunity of learning by doing (McCulloch *et al*., 2001). As a result, opening up to trade could encourage the incentive to duplicate the competitor's strategies which may prove inefficient or shut down the local businesses and give leeway to the new foreign entries to the industry resulting in job losses (Lall, 2004). Therefore, the cost of trade liberalisation will be the risk of phasing out infant industries which have the potential to be big companies, and cause unemployment, especially if there is no protection for such industries.

Another cost of trade liberalisation is increased volatility. Scholars argue that capital market liberalisation played a role in facilitating the large and rapid capital outflows that triggered the Asian crisis in 1997/8 (Hausmann and Rodrik, 2003). In addition to this, there could be long-term changes in the structure of an economy, increasing economic activity concentration, making countries more vulnerable to changes in world prices (Tang and Harrison, 2004). Also, it has been argued that opening up to trade may lead to a loss of sovereignty, which is why some countries oppose participation in multi-country trade agreements. All multi-country agreements inevitably involve sacrificing some measure of sovereignty in return for the benefits of cooperation (Schaefer, 2002).

Ultimately, there is a lot of evidence that trade liberalisation can increase efficiency in the affected sector and increase economic growth. Critics of trade liberalisation have evidence in that jobs will be lost and there will be unbalanced development. Therefore, trade liberalisation may cause one side to benefit and the other side disadvantaged.

2.2.1 Theoretical Approaches to Trade Liberalisation

This section briefly examines the theoretical approaches to trade liberalisation. The approaches include classical trade theories, beginning with Adam Smith's theory of absolute advantage; David Ricardo’s improving the theory with the theory of comparative advantage (Sen, 2010); neoclassical theories of trade which address the question of why countries would engage in

trade liberalisation (Rahim, 1999), and; new trade theories which are an extension of neoclassical theories, which include features in the models such as imperfect markets, strategic firm behaviour, and political considerations (Cattaneo and Dodd, 2007).

Absolute advantage theory contributed as an economic dimension of the industrial revolution in the 18th century, when changes occurred within the trade sector, with world trade increasing and the wars in England coming to an end (Kucukaksoy, 2011). The theory states that two countries can gain from trade with each other, instead of the mercantilist view of gaining at the other's expense. The absolute advantage theory states that a country can produce a product or service in a large quantity more efficiently than the trade partner. It will result in a positive-sum game as the countries trade in different goods and have differences in their absolute advantage. Absolute advantage dwells on the role of trade as an outlet for surplus domestic production which will allow for opportunities, specialisation and division of labour (Thirlwall and Pacheco-Lopez, 2008; Schumacher, 2012).

At the same time, comparative advantage theory states that the countries do not only have to trade in goods with absolute advantage but can trade in goods with a relative cost advantage (Brecher *et al.,* 2002). The country that has an advantage in the production costs will engage in the foreign trade to export those surplus parts of the produce for which they have no demand, and import another product for which they have a demand, and production costs disadvantage from the other country (Smith, 1776). It will result in labour efficiency and increased consumption levels in both countries as production is focused on the least expensive goods to produce, and the goods that are more expensive to produce are imported (Zhou, 2013). The end goal for international trade under the classical theories of trade is to increase efficiency in the use of resources in order to increase consumption (Patnaik, 2005). As a result, trade liberalisation is a tool for achieving efficient use of resources. Comparative advantage puts forward the advantage of free trade and in the specialisation in goods a country has a comparative advantage (Formaini, 2004). Therefore, classical trade theories advocate for free trade (with trade liberalisation promoting free trade), focusing on nations specialising in production with relatively fewer factor inputs.

Arguments brought by the critics of classical trade theories state that the theories do not apply to underdeveloped countries as they export raw materials only to import the manufactured goods, which hinders the economic growth of these economies (Myint, 1958; Sen, 2010; Kvangraven, 2017). Others, for example Saif (2019), argue that the classical trade theory does

not explain the trading trends of the countries based on specific endowments. Countries have different endowments that can be used as production factors. Production activities are not only limited to labour. Zhou (2013:278) criticises Ricardo, stating that "the theory is established with the assumption of only one production factor (labour force) which makes it hard to explain the comparative advantage under the situation of multi-factors existing". Neoclassical trade theories extend the classical trade theories by introducing marginal costs that will arise when shifting production factors, explaining why there is no complete specialisation in countries (Fauzel, 2020).

According to Acharya (2015), the basic foundation of trade liberalisation is in the Heckscher-Ohlin Trade Theorem (H-O Theorem). The assumptions of the H-O theorem are: that the two countries entering into the trade agreement have the same factors of production and have constant returns to scale, and that the factors of production are available in both countries (Redding and Martin, 2001; Bhat, 2013). However, the factors will differ in that one of the countries will be relatively labour abundant, while the other will be relatively capital abundant. The difference is significant enough to cause a shift in the production possibility frontier curve, and a difference in price ratios when in autarky (Tri-Dung, 2015). Therefore, the relative abundance in the factors will determine what will be produced for export. Each country will export the product that uses the most abundant factor (Sen, 2010) and import the product that uses the scarce factor. This means the factor with which the country is endowed, will determine the goods it produces. The factor endowment theory brought by the H-O theorem sets it apart from the comparative advantage theory (Tri-Dung, 2015; Rahim, 1999). Hence, the exporting industry is likely to grow as trade liberalisation will allow the exported goods to be sold to the importing country at a lower price. The industry will realise economies of scale, gaining profits that could lead to economic growth and development.

The Stolper-Samuelson theorem (S-S Theorem) is a corollary of the H-O model and is often identified when studying trade and poverty matters. The corollary alludes to protection and wages and the factor price equalisation theorem (Sen, 2005 and Appleyard *et al*., 2017), which assumes that the factor price is the same across all the countries if factors of production are mobile between the countries engaging in trade. With the prices of outputs being the same across the countries in free trade, the price of the factors will also be equal (Tri-Dung, 2015). If a labour-abundant country were to engage in trade, based on their factors, it would increase labour-intensive goods production, as there is an increase in the foreign market demand for the

labour-intensive good. An increase in production will increase the labour demand, which will absorbed by the capital-intensive industry. The labour-intensive industry is expected to increase relative prices whilst the relative price of the capital-intensive industry decreases.

However, this is hardly noted when it comes to trade in the real-world scenario. According to Tri-Dung (2015), the differences in the factor quality play a role in whether there will be factor price equalisation, and the differences in the production technologies across the countries also contribute to the differences in the prices for the product.

2.3 Poverty

There has been much debate around the conceptualisation, definition and measurement of poverty and this debate goes beyond semantics and academic thinking (Richmond, 2007). Therefore, the concepts, definitions, and measurements of this phenomena must be theoretically robust and appropriate to the society in which they are applied (Meth, 2006). According to Laderchi *et al.*, (2003), the different concepts and measures of poverty are vast, so much so that using different concepts and measures on the same group of people may yield different results, that state that very same group are either poor or not depending on the measure used. However, there is no one solid agreement philosophically and scientifically on the best approach to defining poverty (Burtless and Smeeding, 2021).

The basic definition of poverty is: - not having the means to meet basic needs due to the lack of income and productive resources that warrant a sustainable livelihood (Woolard and Leibbrandt, 2001; UN, 2019). However, this has been viewed as being an inadequate definition that does not address poverty well. The World Bank (WB) defines the other side of poverty as "hunger, lack of shelter, inaccessible healthcare and education, unemployment, fear of the future and living one day at a time" (World Development Report, 2000:15). Therefore, poverty is a condition where the minimum standard of living is lacking and is aligned to an economic characteristic. However, poverty includes social and political dimensions as well. Within the social and political dimension, the insufficiency is linked with poor distribution of resources and power dynamics within a society, causing the members in the society to live lives they do not value, as there is limited social capital, access to information, education and healthcare (Word Health Organisation, 2002). Also, poverty is noticed in unequal social status and social relationships such as dependency, social exclusion and the inability to participate in society

(Silver, 1994). According to the World Bank study "Voices of the Poor", individuals living in poverty were in this circumstance due to: a) abuse by those in power, b) dis-empowering institutions, c) living in secluded locations away from economic activity, d) gender; with women being the most disadvantaged, and e) lack of security, i.e. vulnerability, limited capabilities, weak community organisations and discrimination (World Development Report, 2000). In essence, poverty is multidimensional in this macroeconomic lens.

2.3.1 Theoretical approaches to measuring poverty

Laderchi *et al*., (2003) state two common problems encountered when measuring and defining poverty. Firstly, measurements are difficult due to the different spans and nature of poverty; material aspects of poverty should be considered, as well as social, political, and cultural aspects. Secondly, poverty definitions cannot be universal and transferred across different societies. Hence, there have been four main approaches in defining and measuring poverty: monetary approach, capability approach, social exclusion, and participatory poverty, to try and address the two concerns above and more (Kwadzo, 2015).

2.3.1.1 Monetary Approach

The monetary approach is the most commonly used approach when it comes to the measurement of poverty. This approach identifies poverty as the scarcity in consumption and income (Conway, 2004). This definition can be absolute or relative. Absolute poverty is when a household's income is below the necessary threshold to meet the basic needs, whilst relative poverty is where households earn 50% less than the average household income (Madden, 2005). Scholars who argue that the concept of poverty is fundamentally relative are of the view that an individual or household's poverty cannot be measured on its own, but only relative to the welfare of other households (De Haan and Maxwell, 1998; Foster, 1998). Therefore, an individual can be in relative poverty yet not in absolute poverty. Rank (2004) and Kotler *et al*., (2006) highlight that poverty is relative and will depend on different interest groups and individuals experiencing poverty.

The monetary approach is expected in economics due to the utilitarian approach, where the maximising utility behaviour assumption is used in microeconomics. Therefore, welfare is measured as the total consumption enjoyed by the income, identifying poverty as below a

certain threshold of a minimum level of income or resources (Laderchi *et al*., 2003). Suppose poverty is simply defined as falling below the poverty line, a minimum acceptable level of consumption and income, there will be room for debate about how accurate the poverty line is when being captured in surveys, a problem which McCulloch *et al*., (2001) identify, posing the question as to how the poor and non-poor will be discriminated against through the use of the poverty line.

The most commonly used approaches to monetary measuring of poverty are calculating household or individual income or consumption expenditure based on household surveys data. If the survey represents the national population, it is possible to use such data to calculate the number of people whose income or consumption falls below a national poverty line (McCulloch *et al*., 2001). Nationally representative surveys and the technology for processing them quickly and cheaply have greatly improved over the years. Therefore, assessments of monetary poverty are relatively easy to embark on. Furthermore, if enough households are surveyed, it can be possible to calculate poverty at a regional or sub-regional level and, if surveys are repeated, to make comparisons over time (Winters, 2006).

Using income and consumption to define and measure poverty is relatively straightforward and quantitative. It also provides "an essential basic part of the picture of poverty" (Conway, 2004:4). However, there are some weaknesses in the use of monetary poverty measures. Poverty is multidimensional, and those who are poor may experience other dimensions such as powerlessness and vulnerability, which are poorly captured by focusing only on income or consumption (McCulloch *et al*., 2001). Again, problems are linked with collecting real income and consumption expenditure information from household surveys, which are often difficult to account for.

2.3.1.2 Capabilities Approach

The capabilities approach is a contribution by Nobel Laureate Amartya Sen, which has been operationalised by the United Nations Development Programme (UNDP) (2002). This approach argues that when making normative evaluations, the focus must be on people's capabilities, not just income, consumption and well-being (Nussbaum, 2001). The capabilities approach focuses on factors that affect individuals' fundamental freedoms, causing the inability to derive sufficient human well-being (Alkire, 2005). One's capacity can include many

dimensions, such as education, health status, skills, and living conditions, to name a few (Wagle, 2018). As such, Nussbaun (2001) argues that the poverty measurements should consider development ethics, cost-benefit analysis, social injustice issues, inequality analysis and efficiency evaluations.

Sen (1987, 1992) argues that capability is the ability to achieve 'functioning' or 'achievement', for it is vital to make informed decisions to live a long, healthy life. 'Functionings' are beings and doings, representing the various things people can do or be in their lives (Morris, 2010; Nussbaum *et al.,* 1993; Sen and Sen, 1985; Sen, 2001). Basic functionings could include being well-fed and having decent shelter, with more complex functionings including inclusivity in the community and not being marginalised (Nussbaum, 2001). Therefore, just having an income does not make living conditions better, and neither does the lack thereof; hence, "the pragmatic approach would be to measure capabilities that enable one to achieve a set of functioning needed to improve or sustain a higher level of well-being" (Wagle, 2018:187). The UNDP (2000) uses this approach to measure capability poverty in terms of illiteracy, poor mental health, life expectancy, malnutrition and illnesses that can be prevented.

The difference between a functioning and a capability is similar to the difference between an outcome and an opportunity. The outcome of having a decent education will lead to an opportunity of participating in the labour market. When assessing capability, Sen (2010) argued for four components. The first component addresses the importance of having positive freedoms, i.e. the freedom to do something. Here, freedoms allude to having enough essential resources to choose from desire as opposed to necessity (Stones, 1997). The higher the capability, the higher the freedom.

The second component highlights the need for a balance in the materialistic and non-materialistic factors when evaluating human welfare, for focusing on resources and income alone will lead to misleading interpersonal comparisons (Kwadzo, 2015; Laderchi *et al*., 2003). An individual may experience deep poverty levels and be content in life if the person has never known differently. Evaluation using the utility assumption will only assess satisfaction, and there will be no difference between a satisfied individual with all the basic needs and an equally satisfied individual without basic needs such as adequate shelter. Nevertheless, they have mentally adapted to the situation (Nussbaum, 2001), hence the need to balance the materialistic and non-materialistic sides.

The third component highlights individuals' differences in transforming resources into valuable activities (Sen, 2001). Lastly, there is a concern for the way opportunities in society are distributed (Nussbaum *et al.,* 1993).

The capabilities approach is satisfactory as it incorporates individual factors into the definition of poverty and its measurements. However, critics of the approach argue that it excessively emphasises individual factors, underestimating social orders and relationships (Wagle, 2018). An individual may have specific capabilities and may not attain adequate income for a certain level of well-being, for example, having acquired education and yet failing to be employed or have employment that is stable and at par with the level of education acquired. According to Wagle (2018), the capabilities approach must be accompanied by comprehensive studies of institutional opportunities and barriers that could exist and hinder human well-being.

2.3.1.3. Social Exclusion Approach

The social exclusion approach goes beyond the economic and capability explanation of well-being. According to Laderchi *et al*., (2003), social exclusion is a concept developed in industrialised countries to describe the process by which some of the population is marginalised and deprived. It has since been extended to developing countries through the activities of various United Nations agencies. Townsend (1979) defines social exclusion as an act of excluding individuals from standard living patterns and activities. An individual may be poor despite being capable of producing specific functioning (Wagle, 2018). These individuals are excluded from the main economic, social, political and cultural activities crucial for human well-being.

The International Institute for Labour Studies (IILS, 1996) found that social exclusion narrows an individual's capabilities to access increased resources in Peru. In India, poverty was the cause of social exclusion, whereas in Yemen, there was no difference between the two. Therefore, a generalised view is that social exclusion and poverty reinforce each other (Wagle, 2018).

Social exclusion differs from the monetary approach and capability approach because the central focus is the social perspective which is a characteristic of groups, such as race, ethnicity, age, and disabilities, rather than just focusing on individuals. In other words, it opens up to

policies addressed in groups (Kwadzo, 2015). Its similarity to the capability approach is that multi-dimensionality is an intrinsic feature.

2.3.1.4 Participatory Approach

Lastly, poverty can be measured through the participatory approach. The traditional poverty measures and estimates have been criticised for not considering the views of those living in poverty (Laderchi *et al*., 2003). This approach was pioneered by Chambers (1997); to have the individuals affected by poverty participating in decisions about what it means to live in poverty and the magnitude of living in it. The World Bank has used Participatory Poverty Assessments (PPA) as a complement to their poverty assessments. Using PPA has an advantage in that the assessments do away with imposed standards of poverty set by external parties (Mowafi, 2004). The assessments help define an appropriate minimum basket of commodities for the monetary approach, the list of necessary capabilities in the capability approach, and the main elements for the social exclusion approach, while PPA can also indicate if it can be applied in a particular society. In essence, this approach gives the perspective of the poor (Laderchi *et al*., 2003.

2.4 Why does the trade-poverty link matter?

There is mass evidence that openness to trade is good for growth, and that growth trickles down to the poor households. To fully reap the benefits of trade, trade policies should be accompanied by sound policies in areas such as transport and communications infrastructure, market facilitation, competition, education and governance (McCulloch *et al*., 2001). The literature points out that there are benefits, costs and risks to engaging in trade liberalisation. The risks are likely to be much higher for the poor households, in developing countries for the poor are more vulnerable. Nevertheless, the poor households' benefits may be more significant for developing countries when these benefits are realised (Todaro and Smith, 2015).

The differences between arguments inclined to view trade liberalisation as virtuous for poverty reduction vs arguments viewing it as unjust can be due to different understandings of what is meant by poverty and how it should be measured, which could be the reason for the ambiguity of the trade-poverty link (Winters *et al*., 2004).

According to Conway (2004), whether trade liberalisation can cause poverty reduction or not is attributed to the differences in the definition and measurement of poverty itself. This is an ongoing debate, not just in trade liberalisation and poverty studies but in poverty studies on their own.

In literature, openness to trade is generally seen as a critical element of sound economic policy, and trade liberalisation as a necessary step to achieving a growing economy. Trade liberalisation is believed to be an essential part of the policy package for prosperity, growth and poverty alleviation (World Trade Organisation and World Bank, 2015). In contrast, poverty is one of the most significant challenges to socio-economic policy and reducing it is the ultimate objective. From a development perspective, a critical issue is whether trade liberalisation can be a channel through which poverty can be reduced. The final objective is not so much understanding how poverty is alleviated by engaging in trade liberalisation but rather, having a more comprehensive trade policy (Winters, 2006). A comprehensive trade policy allows for sustainability and resilience, for example, should there be an economic crisis or pandemic, it can adversely affect the poor. Those who would have been taken out of poverty can be at a risk of falling back into poverty should the trade policy not be sustainable or resilient. It is therefore imperative that policymakers understand the essence of poorly conceived trade policy as inadequate trade reforms will hurt economic agents, possibly pushing them into, or deeper into, poverty and that some reforms may increase overall poverty even while boosting incomes in total (Goldberg and Pavcnik, 2007). There are some winners and some losers in opening up to trade. However, there is a need for more winners from the lower-income classifications to achieve developmental goals, especially in developing countries. Pavcnik (2019) states that having winners and losers of trade benefits places trade liberalisation in jeopardy, but having predominantly lower-income households benefiting mitigates this. Thus, besides the general presumption in favour of trade liberalisation, there remain crucial public policy questions of how to implement trade liberalisation in a way that maximises its benefits for the poor and what to do about the poverty that it may create (McCulloch *et al*., 2001). According to Revenga and Gonzalez (2017), the rise in inequality after opening up to trade reflects a need for more robust pro-poor policies that advocate for safety nets for the poor and better social and labour programs.

Any analysis of the impact of trade liberalisation on poverty must consider how the shocks induced by trade liberalisation fit into a more general picture of the processes causing and perpetuating poverty in any country (McCulloch *et al*., 2001; Winters *et al*., 2004; Mabugu and

Mabugu, 2014). Hence, how the two can work together and complement each other is a critical study. According to Harrison (2007), poverty is not a direct result of trade liberalisation. Instead, poverty arises from lack of assets, poor access to pooled resources and public services, geographical isolation, poor health and education, powerlessness and vulnerability. The link also matters when trade liberalisation affects the direct determinants of poverty and when it has a significant contribution to reducing poverty through a range of other possible policies (Winters, 2002).

Trade liberalisation inevitably involves costs of adjustment, and job losses in once protected sectors (Harrison, 2007). The best way to ease the pain of transition is to protect social expenditure and ensure appropriate targeting of the poor. For long-term benefits of trade liberalisation to extend to the poor, poor households' supply responses to the increased opportunities are essential. Trade liberalisation can extend to being about safety measures used and not just about the tariffs and non-tariff barriers. The safety measures will be influenced by their location and demographic structure, gender, health status, education and assets of their members. Complementary policies to protect vulnerable households are necessary (Conway, 2004).

The link typically used to analyse trade and poverty and which has sparked debate and controversy is the "growth link". When trade increases economic growth and leads to high welfare gains (Thirlwall and Pacheco-Lopez, 2008), the "growth-link" is supported by economists who argue that openness to trade is expected to lead to high levels of economic growth and therefore, growth is good for the poor. Therefore, opening up to trade should lead to less poverty as economic growth increases (Bhagwati and Srinivasan, 2002; Berg and Kruger, 2003; Dollar and Kraay, 2004). Thirlwall and Pacheco-Lopez (2008) state that trade liberalisation leads to faster economic growth, lifting more people out of poverty and reducing poverty.

The counter-argument of this debate states that the effects of economic growth on poverty are conditional and hard to generalise as to whether the growth gains are experienced by the non-poor individuals more than the individuals in poverty (Ravallion, 2006; Rodriguez, 2007). However, some international development agencies still support that economic growth is the key to alleviating poverty (DFID, 2008). According to Winters *et al*., (2004), growth can cause some imbalance, and if extremely strong, can increase absolute poverty. It has been

found that this is not the case with general growth or growth associated with trade (Conway, 2004).

2.4.1 Theoretical Approaches to the Analysis of Trade and Poverty

Trade can alleviate poverty through static or dynamic gains, although some economists argue that economic theory does not predict that trade liberalisation is poverty-alleviating. Instead, it predicts static efficiency gains (Thirlwall, 2009). Static efficiency gains are an increase in industry's productions or an increase in the welfare of the trading country's population due to the optimum allocation of the most abundant factor in the country (Goff and Singh, 2014). In a developing country's case, the Stolper-Samuelson theorem describes the static efficiency gains as the fact that an increase in relative prices of goods will increase the return to low-skilled labour, as it is most abundant (Davis and Mishra, 2007). With dynamic efficiency gains, there is an increase in economic growth, enhancing the sectors that intensively use low-skilled labour, increased revenue redistribution, and increased demand for non-traded sectors (Levy, 2019). A more open economy can be expected to allocate investments more efficiently, create opportunities to realise economies of scale, increase enterprises' exposure to technological improvements in productivity, and intensify competition. The result of these forces should be to engender growth (McCulloch *et al.*, 2001; Jenkins and Thorburn, 2003). Therefore, both static and dynamic gains can alleviate poverty, especially if the gains reach poor households.

There may be static efficiency gains from trade liberalisation and high volumes of trade. However, there is a strong possibility of having welfare losses if the domestic firms cannot compete when the trade barriers are lifted, and those employed in the industry lose their jobs and cannot find work. This is mainly a problem when poverty is associated with higher unemployment (Harrison, 2006). It has been seen that the distribution of gains from trade does not necessarily spread equally across the globe between trading nations. Similarly, gains within a country could fail to be distributed to all the citizens, especially to the poor. As mentioned before, even if the poverty ratio declines in the country, income distribution may still become unequal (Thirlwall, 2009).

The theories used to support the trade and poverty links are: Stolper-Samuelson Theory, The Specific Factor Model, New Trade Theory, the McCulloch, Winters and Cirera Framework, and Kanji and Barrientos - Livelihoods Approach (Cattaneo and Dodd, 2007).

1. *Stolper-Samuelson Theorem*

The Stolper-Samuelson Theorem (S-S Theorem) is a corollary to the Heckscher-Ohlin Model, which analyses trade and income distribution in a neoclassical framework. The theorem describes the relationship between the relative price of output produced and relative factor endowments, looking specifically at real wages and actual returns on capital. In this instance, the economy is under the restrictive neoclassical assumptions of constant returns to scale, perfect competition, and a number of factors of production equal to the number of products produced (Chipman, 1969; Cattaneo and Dodd, 2007; Davis and Mishra, 2007).

The S-S Theorem has a two-factor production setting, labour and capital, which produces two goods. The labour factor produces goods one, and the capital factor produces goods two. The theorem states that a country has a comparative advantage in goods whose production is relatively intensive in its relatively endowed factor. An increase in the relative price of any goods will lead to an increase in the real return of the factors used intensively in producing the goods and by contrast, to a fall in the real return of the other factor (Cattaneo and Dodd, 2007).

Since the S-S theorem argues that opening up the economy will lead to an increase in real income of the abundant factor and a reduction of the scarce factor, the theorem has been used in numerous studies to explain how trade affects poverty (Urata and Narjoko, 2017; Cattaneo and Dodd, 2007; Goldberg and Pavcnik, 2004; Acharya and Marjit, 2000).

Most developing countries usually have labour-intensive sectors (Guliwe, 2019). It follows that in a labour-intensive country, trade liberalisation will increase the relative price of the labour-intensive goods for the export-leading sectors, in order for the sectors to expand. The demand for the export production factors is expected to increase with the nominal returns to labour, whilst the returns to capital are lowered (Harrison, 2007). Since most unskilled labour is from the poor population (Kabuya, 2015), the increase in real wages will increase living standards and possibly take the unskilled out of poverty. Also, the unskilled could become more skilled as the sector expands.

Should the labour and capital factors be termed unskilled and skilled labour, respectively, the S-S theorem prediction would be that trade liberalisation will increase the real income of the unskilled labour in the developing countries. This will lead to decreased skilled to unskilled wage inequality (Cattaneo and Dodd, 2007). The critical implication of the theorem is that trade liberalisation is appropriate for poverty reduction (Harrison, 2007) in unskilled labour-abundant countries. However, for skilled labour-abundant countries, the S-S theorem predicts

a rise in wage inequality, as the unskilled labour will lose out on the trade liberalisation benefits as the less abundant factor. This will push the labour force into poverty.

According to McCulloch *et al*., (2001) and Winters (2000), in spite of the elegance the Stolper-Samuelson theorem holds, it is not sufficient to answer the questions on trade and poverty in the real world and will need to be supplemented with more ad hoc approaches. According to Winters (2003), firstly, the theorem explains the functional distribution of income. However, the functional distribution of income is not the same as the personal distribution of income. Income that a household gets is indirectly linked to the returns of the different factors of production; it depends on which of the factors of production they possibly own, which is challenging to find empirically. Secondly, the theorem holds strongly as a two-factor model. However, when the model moves to three factors and more, the theorem becomes less credible. Thirdly the labour market is assumed to be perfectly mobile at the national level. When this assumption is violated, and labour markets are segmented, which is the reality, similar labour in different markets is treated as a different factor and will fare differently. Despite some of these shortcomings, if the theorem is supplemented with other theories, it is still relevant in explaining the link between trade and poverty.

2. Specific Factors Model

The Specific Factors Model is an adjustment to the S-S theorem. It follows that there are still two factors of production: capital and labour, however, one factor of production is specific to an industry. Capital is sector-specific, while labour remains mobile between sectors; given that labour is the mobile factor, there will be an increased demand for labour in the expanding sector and the nominal income of labour will increase (Cattaneo and Dodd, 2007). Using the example of labour being dubbed as unskilled labour above, more unskilled labour is employed and the nominal income increases. One of the main challenges that the poor and the vulnerable face is unemployment; inclusivity in the job market is essential (World Bank, 2015).

Therefore, the implication of the Specific Factors Model, when placed in an international trade context, is that the standard approach assumes that the countries involved in trade differ in the numbers of specific factors used in the industries relative to the total amount of labour used. Trade is possible, for there are differences in endowments, technology, and demand, triggering price changes in the respective countries.

As a result of trade liberalisation, there will be a rise in one product's price in the export sector. Assuming it is the labour industry that has a price increase, there will be profits

realised. It will follow that the value of the marginal product in exports will increase above the current wage rate and encourage firms to absorb more labour (Neary, 1995). The resulting factors could be employment and an increase in the standard of living.

The model demonstrates that trade generally benefits the factors of production specific to the export sector while hurting the factors specific to the import/competing sector. There will be a decrease in the demand for capital specific to the import/competing sector, lowering its nominal returns. Since the sector-specific capital is fixed in supply, the use of capital with a reduced amount of labour will decrease the marginal product, following a decrease in real returns (Schulze, 1999). The opposite transpires for the export/expanding sector. There is an increase in demand for both factors in the export/expanding sector. The more labour for a specific capital increases in the marginal physical production of capital, the more the marginal physical production of labour decreases, in the expanding sector product (Cattaneo and Dodd, 2007).

The implication for poverty suggested by the specific-factors model is that there will be consequences on labour. There will be a high demand for labour in the export/expanding sector with low demand for the import/competing sector. Wages may fall for the import/competing factor, leaving the workers in the sector with less to spend, resulting in a fall in living standards and, loosely, being pushed into poverty.

3. New Trade Theory

The New Trade Theory extends neoclassical trade theory, which introduces imperfect markets, strategic firm behaviour and other aspects of industrial organisation theory, endogenous growth and the political economy considerations (Cattaneo and Dodd, 2007). The theory focuses on economies of scale and network effects, altering the constant returns to scale assumption into increasing returns to scale. It has been argued that the economies of scale and network effects can be highly significant, to the point of outweighing the comparative advantage theory (Deraniyagala and Fine, 2001).

Between two trading countries, one may specialise in an industry, leading to a gain in economies of scale and other network benefits. The country will become more efficient in the trade of the goods in the particular industry, so much so that the other country, which may have had a comparative advantage, will find it more expensive to trade in the goods as there are no economies of scale or network benefits on their side. Monopolistic competition is an essential element of the new trade theory. It suggests that the firms compete based on branding and not

just price. However, the poorer countries struggle to develop some industries because they fall behind, whilst the more affluent countries have gained economies of scale (Cattaneo and Dodd, 2007; Neary, 2009).

The implication of this on trade flows is that the economies of scale can trigger product differentiation. Firms will be producing a certain number of varieties of a particular product. Once the country opens up to trade, foreign varieties become available, and the domestic industries will specialise in specific varieties to take advantage of the economies of scale and produce the product more efficiently and cheaply (Cattaneo and Dodd, 2007).

The assumption is that there is an existing demand for the variety, leading to intra-industry trade in different varieties. This can increase the nation's welfare, increasing choice and lowering costs due to the economies of scale (Cattaneo and Fryer, 2002).

Overall, all factors of production can gain from trade. However, for poor households to gain, the demand for variety has to be high. The demand may offset the distributional loss for the specific factor with the overall comparative advantage. Therefore, if it is weak, the extra gain has to be strong, and poor households depending on the earnings through the sector-specific labour in the industries involved, will be at a loss (Cattaneo and Dodd, 2007).

4. McCulloch, Winters and Cirera Framework

Winters (2000) and McCulloch *et al*., (2001) motivated and introduced the McCulloch, Winters and Cirera framework, which investigates the various channels through which trade liberalisation affects poverty. The framework focuses on the product market, labour market and government expenditure. From the product market, there is the distribution channel that affects the price transmission. From the labour market, there is an enterprise channel, which affects wages and employment. The government channel affects taxes and government spending (Winters, 2000). The framework brings a different dimension to investigating how trade liberalisation affects poverty, which is different from the traditional channels through economic growth and short-term adjustment costs. The reason behind having the different channels is that the public debate on the linkages has become unclear, due to the confusion of the dynamic issues of growth and adjustment, with the important "but perhaps less dramatic, channels through which trade liberalisation can affect the poor" (McCulloch *et al*., 2001:67).

According to McCulloch *et al*., (2001), it is crucial to have a 'characterisation '- a set of features and factors that are likely to determine how economic shocks will affect a household. This is

important because poverty is not an abstract concept; it affects real individuals and actual households. Hence, the analysis and framework begin with a description of household characteristics.

Singh *et al*., (1986) characterised a household as a 'farm household'. Here a 'farm household' does not refer to people who work on the land, but rather to any household that has to decide what to produce and consume, and how many hours one should work. The framework adopts the 'farm household' model, and it follows that household welfare will depend on income and prices of all the goods and services consumed. Income must be measured as 'full income', which consists of; (a) the maximum amount of time spent working for the income which is valued at the prevailing rate, (b) the transfers and other non-earned income such as remittances from relatives, goods and services in kind and benefits from common resources, and (c) profits from household production. This approach defines all the variables needed to calculate the effects of trade policy shocks on income and consumption poverty (McCulloch *et al*., 2001). Hence, the direct effect of trade liberalisation will be to change prices. A small price change will affect the household's welfare depending on whether the household is a net supplier or net demander of goods or service.

McCulloch et al. (2001) consider several generalisations of the household to make it more realistic. First, a household can provide several forms of labour, both skilled and unskilled, which leads to considering a household's endowments and the different wages they receive. Second, working on and off the 'farm' may not be perfect substitutes because off-farm consists of travel which may be costly. Also, the 'farm' may prefer family labour to non-family labour. Therefore, the 'wage' paid to the family member may differ from the non-family member, even if the work is the same. Third, there is a need to incorporate some assumptions on how households allocate their time. Poor households may earn income through different activities, and the mix of the activities may change significantly with the changes in trade policy. If the trade policy creates employment or generates unemployment, there will be a significant effect on poverty if it involves a considerable change in the individual's time. For example, the amount of time can change from nothing to a full day's work or vice versa. Lastly, the factors of production need to be generalised to include not only labour but land and other assets the households may have.

After characterising and generalising the basic view of a household, the framework then considers the three channels that may directly affect the household's welfare when a country engages in trade liberalisation.

Channel 1: Distribution Channel - Prices and Consumption

Trade liberalisation will change the price of the liberalised goods. When a product is imported, it will go through the border, incurring costs. The world price of the product, the tariff it faces, and the exchange rate will define the border price. When inside the country, the product will face domestic taxes, distribution costs as it is distributed to the 'wholesale' or distribution centre, and various regulations that may add costs to the product. The product is sent to the local distribution points from the distribution centre, potentially facing more taxes and regulations. The resulting final price is the retail price. An export product is produced and distributed into local channels, national supply, and sold abroad. Along the way, it incurs costs that will add mark-ups to the final price (Winters, 2000; McCulloch *et al.,* 2001). This will be transmitted to the household when the product is in their consumption basket. The conversion of the price signals into economic welfare will depend substantially on the household's characteristics, such as endowments, and whether they are net consumers or net suppliers.

Wage-earners (net consumers) benefit if the prices of the goods in their consumption basket fall. Price changes will have distributional effects depending on the weight of each product in the basket. If the prices of essential goods fall, the poor household will gain more than the wealthy household as they use a high proportion of their income on food. Removing protective measures such as subsidies raises food prices, when the poor are likely to suffer severely. The multitude of circumstances will determine the welfare impacts on wage-earners (Thirlwall, 2009). The effect of trade liberalisation on output prices, input prices, and the prices of a basket of goods for consumption, particularly for the self-employed, plays a vital role. When producers (net suppliers) gain, this will be due to the fall in prices of import goods needed to produce and earn profits (McCulloch *et al.,* 2001). If competition among the local producers proves massive and forces the producer out of business, there will be a total loss of income.

As highlighted by Pavnick (2019), trade liberalisation will have some winners and some losers. Hence, the export industries' response to the new opportunities and increased competition for import industries is critical. There is a need to realise more winners than losers, and only the type of response to the 'shocks' can determine the magnitude of change.

Channel 2: Enterprise Channel - Employment and Wages

Under the enterprise channel, McCulloch *et al*., (2001) suggest two approaches: (i) the 'trade' approach and (ii) the 'development' approach. Under the 'trade' approach, the authors credit the S-S Theorem, Specific Factors Model and the New Trade Theory, which have been discussed in detail above in section 2.4.1. The common theme of the three theories is that factors of production are in fixed supply, when the increase in demand for the factor triggers the real income return. In contrast, the reasoning behind the 'development' approach is that one factor, perhaps labour, can be acquired at the prevailing wage. Therefore, one factor is in perfectly elastic supply.

Wage-earners will be affected by trade liberalisation through employment and wage rates. This may occur if the wages are flexible and labour is fully employed in the market. Price changes caused by the trade liberalisation will reflect on the wage changes with the employment remaining the same. On the other hand, if there is movement in the labour market with the workers switching jobs when circumstances change due to liberalisation, there will be a change in employment. In reality, there will be a combination of these changes. The effects on poverty then depend on the type of labour that the poor households supply and where the various wage rates lie relative to the poverty line (Conway, 2004). If a country liberalises a particular industry and increases productivity and real wages, the wage-earners benefit. However, if the labour supply is perfectly elastic, wages will not rise, and the gains in productivity will accrue to employers. Also, wages stand to decrease if the domestic firms are threatened by the increase of competition as the economy liberalises. This is in the case of an import/competing industry. For an export-led industry, liberalisation will provide more employment and higher wages (Cattaneo and Dodd, 2007).

Channel 3: Government Expenditure - Taxes and Spending

The assumption is that trade liberalisation will decrease government revenue as the elimination of tariffs will decrease the government's taxes. This can affect social expenditure and may hurt the poor. Rodrick (1997) argues that liberalisation reduces the government's ability to raise revenue for the mobile factors will not be taxed so readily, and McCulloch *et al*., (2001) finds that reducing revenue that affects social expenditure is inevitable. However, Winters (2002) states that if revenue or expenditure declines due to trade liberalisation, social and anti-poverty programmes can be protected, because sound macroeconomic management is more critical for social spending than is trade taxation.

The association between liberalisation and a decrease in government revenue has a historical basis. The structural adjustment programs in the 1980s led to revenue losses for some governments, with instances of expenditure being cut back (Stein and Nissanke, 1999). When the Asian crisis in 1997-8 had a similar experience, the countries sought the protection of social and anti-poverty programmes. Therefore, it is crucial to consider the implications of trade liberalisation on government revenue and expenditure.

However, to offset revenue lost from trade liberalisation, governments often increase other taxes such as sales tax, consumption tax and VAT. This will affect poor households, and the extent of the effect will depend on the tax size, the nature of the goods the tax is being imposed on, and the extent of trade liberalisation itself (McCulloch *et al.,* 2001).

Trade liberalisation's effects on poverty are not as simple as outlined above; they are more complex and case-specific (McCulloch *et al.,* 2001). There are macroeconomic conditions to consider, such as the economy's vulnerability to shocks and the risk associated with it. Opening up the economy can make it more vulnerable, leading to adverse impacts on poverty, as one of the critical dimensions of poverty is the inability to absorb economic shocks well, compared to the better-off groups. Hence, trade liberalisation can affect poverty through having security, improved capacity from institutions to have sustainable long-term welfare for the poor and vulnerable, and through mitigating risk and increasing the ability to cope with shocks that open up the economy (Conway, 2004). This leads to the Livelihoods Approach to the analysis of trade and poverty.

5. The Livelihoods Approach to the analysis of Trade and Poverty

In this approach, the authors Kanji and Barrientos (2002) consider the sustainable livelihoods approach complementary to the McCulloch, Winters and Cirera framework. The focus in the livelihoods approach is on the socio-economic perspectives of poverty. This broadens the framework by including vulnerability, insecurity, isolation and powerlessness (Cattaneo and Dodd, 2007). It considers people's capabilities and social assets and not just the material assets that tie in with Sen (1987, 1992)’s Capabilities Approach when studying poverty. Looking into the vulnerability of poor households in the face of different shocks allows for consideration of risks and opportunities presented by trade liberalisation.

Moreover, an analysis of institutions and processes conducive to participation in the market can assist in identifying the market and non-market factors that impact poverty. The livelihoods approach has a broader perspective than just an increase in income when studying

the effects trade liberalisation has on poverty. In essence, securing livelihoods and decreasing vulnerability is seen as just as necessary as raising incomes. There are alternatives that Kanji and Barrientos (2002) suggest be integrated with trade-poverty related studies, and these are global value chain analysis, gender analysis and trade and environment studies.

2.5 Empirical Review

As stated above, one of the channels used to study trade liberalisation effects on poverty is the growth channel, where trade liberalisation will affect economic growth, leading to poverty reduction. However, the channels that will be focused on in this study are (distribution) prices and consumption, (enterprise) employment and wages, and the government channel. Therefore, this empirical section will investigate studies concerned with these channels. Firstly, we begin with a few general studies followed by studies that explore the specific channels mentioned.

Since the consensus, in theory, is that trade liberalisation's impact on poverty is ambiguous, this has also been reflected in the empirical literature. According to Winters *et al*., (2004), the ambiguity is due to the heterogeneity of poverty. The multidimensional concept of poverty causes problems, for there is no consensus on measuring it (Ha and Cain, 2017). Other studies have found that the impact of trade liberalisation is either neutral, ambiguous or does not reduce poverty at all. Such studies include the work of Goff and Singh (2014) in a study on thirty African countries that show that trade openness neither increases nor decreases poverty for the countries in the study, with freer trade seemingly bypassing the poor. The evidence showed that the trade benefits depended on policies being enforced such as deeper financial and strong governance. Singh and Huang's (2011) study on 37 sub-Saharan African countries found that greater openness increased headcount poverty, while the poverty gap and the lowest quintile experienced a decline in income.

A couple of studies have concluded that trade reduces poverty, categorically through the economic growth link. For example, Dollar and Kraay (2004) concluded that increased trade reduced poverty in the countries identified for their study. These countries, including China and India, have dramatically decreased their tariffs since 1980 and achieved expansion in trade. The expansion in trade has been accompanied by an increase in growth rates, leading to a proportionate increase in income of the poor, concluding that absolute poverty in the selected

developing countries has decreased immensely. The authors thus conclude that open trade regimes will increase economic growth, leading to a reduction in poverty in developing countries. Tsai and Huang's (2007) study reached similar conclusions as Dollar and Kraay (2004) for their case study on Taiwan. In Taiwan's case, sustained economic growth has been the primary driving force for poverty alleviation. Also, trade openness facilitates direct distribution effects and indirect growth effects in the long-term and short-term, leading to poverty reduction. However, Rodriguez and Rodrik (2000) criticise the argument that trade leads to economic growth and poverty alleviation. According to Rodriguez and Rodrik (2000), the vast literature which alludes to this thought has misspecification of the measures of openness. Usually, the proxies are used for other policy variables and not necessarily for trade openness. The proxies have an independent detrimental effect on growth. Therefore, the authors conclude that there is little evidence that trade liberalisation leads to economic growth.

Trade Liberalisation effects on Poverty through Employment and Income

Using the McCulloch *et al.,* (2001)'s framework, trade liberalisation can affect poverty through the enterprise channel. The enterprise channel consists of employment and wages. In a case study on poverty, labour markets and globalisation in Indonesia, Kis-Katos and Sparrow (2015) made an analysis that included 259 districts over a three-time period from 1993 to 2002. During this period, the import tariffs decreased from 17.2% to 6.6% on average. This period saw an overall reduction in poverty despite the economic crisis in 1997/98. The reductions in tariffs on intermediate goods led to poverty reduction, with wages and employment changes being the crucial transmission mechanisms. The study found that reducing import tariffs on intermediate goods and not on final goods substantially impacted low-skilled workers' participation and the middle-skilled workers' wages. Intense competition within the industries with reduced tariffs arose and this became the driving force for poverty reduction. The results also suggested that input trade liberalisation contributed partially to poverty alleviation in Indonesia. The effects of trade liberalisation and increased competition in the regional output markets seemed to increase poverty whilst, at the same time, tariff reductions for inputs led to poverty alleviation. This shows that for a short-run analysis of trade liberalisation effects on poverty, the effects cultivated through input markets play a vital role. The authors conclude that the experiences of trade liberalisation in Indonesia add caution to the current policy debate around protectionist tendencies in trade and economic policies.

Cain *et al*., (2010) conducted a case study on India, where the impact of trade on national or regional poverty was assessed. It was found that gains from trade openness were mainly evident in regions with a more flexible market. The H-O model states that goods are exported using intensively available factors whilst goods that the country imports are those whose resource needed to produce them, is scarce. Depending on the region, urban areas or rural areas, abundant factors and scarce factors will differ. Therefore, the increase or decrease of trade will impact the local economy differently depending on the factors available in the region.

Ural *et al*., (2007) investigate trade reforms and industrial delicensing effects on poverty. A fair amount of evidence supports their claims that trade reforms sufficiently reduce poverty. The estimates indicated that reductions in the tariff rates over the 1990s were associated with a 15 percent decline in urban poverty in the Indian states with flexible labour market institutions. This is in line with Hasan *et al*., (2012), who found that urban unemployment declined in states with flexible labour markets at a state level. Furthermore, this study found that those employed in the industries with fewer trade protection measures were less likely to be unemployed, especially in net export industries.

The results of the empirical studies above are consistent with the theoretical expectations in that when an industry or sector opens up to trade by reducing the tariffs, the industry or sector will see an increase in employment rates, which can lead to poverty reduction.

According to Goldberg and Pavcnik (2003), in Brazil and Columbia, when the environment is more intense and competitive, firms may reduce their costs by opting for temporary instead of permanent employees, bringing a rise in poverty. Therefore, in some cases, openness to trade may bring more harm than good.

South Africa has been a leader in trade liberalisation in the SADC region. However, the country's labour market has unusual features that threaten the response to trade shocks. Firstly, the base level of unemployment is too high for a middle-income country. High unemployment will result in workers who lose their jobs from unfavourable trade shocks being unable to find other employment opportunities (Erten *et al*., 2019).

Erten *et al*., (2019) used a local labour market approach to evaluate the causal effects of tariff reforms executed in South Africa from 1994 to 2004 on labour market outcomes at the individual level. It was found that workers in districts facing more significant tariff reductions experienced a notable decline in both formal and informal employment in the tradable

sector. This was propelled by a decline in employment in the manufacturing sector. The displaced workers were found to become part of the discouraged workforce, for there was no evidence of this labour being absorbed into other sectors. They exited the labour force entirely, showing an increased probability of accessing government grants.

Lepelle and Edwards (2020) investigate the effects of tariff liberalisation on services sector employment from 1996 to 2011 in South Africa. This period paralleled with an era of rapid tariff reductions, low employment growth and declines in the manufacturing share of total employment. After examining whether reductions in employment-weighted tariffs at the municipality level led to structural shifts in employment from manufacturing to services sectors, the authors found that liberalisation increased the services to manufacturing employment ratio. However, the shift was not due to the absorption of employment in the services sector from the manufacturing sector. In regions that experienced significant tariff reductions, employment in the services sector also fell. This was driven by lower derived demand, income and infrastructure investment linked to the reduction in manufacturing from the tariff reductions. The decline in the manufacturing sector reduced labour absorption in the services sector, leading to an aggravation of the regional employment impact related to tariff liberalisation. Much of the structural change of employment from manufacturing to the services sector was because of tariff reductions. These findings were consistent with Dix-Carneiro and Kovak (2015), where in Brazil, trade liberalisation accompanied a small yet statistically significant decline in skill premium during 1990 to 1995, a post-liberalisation period.

Pauw *et al*., (2007) found that employees from poor households who may lose their jobs have a low probability of finding new employment. Hence job losses are likely to be permanent. Secondly, the informal employment sector is small and exhibits high barriers to entry compared to other middle-income countries. Thirdly, wages are relatively rigid due to the strong presence of unions in the formal sector. Lastly, the manufacturing sector was relatively underdeveloped at the beginning of liberalisation (Erten *et al*., 2019).

During the advent of liberalisation in the 1990s, increased openness in South Africa impacted productivity and output across all sectors (Johnsson and Subramanian, 2001). There were structural changes in the makeup of output and employment. Some industries changed from production to retailing and some to services. For example, the clothing manufacturers moved into design and retailing, whereas the consumer appliances manufacturers used imports as a

stepping stone towards productivity improvements in the South African production lines and farmers rationalised their production (Edwards and Stern, 2007). Dunne and Edwards (2007) found that import penetration improved labour productivity. From 1999 to 2006, the small household appliances revenue growth increased from 22% to 39% on average (Chaponda and Stern, 2007). For the clothing industry, the labour productivity ratio doubled in the period 1997-2004 (Van der Westhuizen, 2007), and the wheat yields increased from being 50% of the world's average in the 1960s to 85% in 2006 (Hobson, 2006). These statistics show the positive effect of increased openness on output and productivity. Productivity and output are potentially the most crucial avenue in which trade can alleviate poverty (McCulloch *et al*., 2001).

On the flip side of improved productivity, the South African economy experienced a restructuring of employment. In the manufacturing sector, labour demand decreased and turned negative for 1990-2002. Dunne and Edwards (2007) attribute this to being partly due to liberalisation. They find that net trade had a significant role in restructuring the labour market as employment increased in resource-based industries and chemical industries. In reverse, there was a reduction in employment in labour-intensive industries and metal product sectors.

Thurlow (2007) found that employment increased by 10% during the first decade of democracy, with a negative relationship between liberalisation and net aggregate employment. Also, it was found that trade liberalisation and productivity improvements led to a variation in the geographic, race, occupational, and gender compositions of employment, with the less skilled being the most affected. The effects were that between 1995 and 2003, wages and employment of skilled workers increased while unskilled workers experienced slower employment growth and a decline in wages (Edwards and Abdi, 2003). Bhorat (1999) found increased trade favouring skilled labour while the lower-skilled employment rates declined. According to Edwards and Stern (2007), losses in employment and income from tariff reductions are concentrated in the coastal regions and amongst Coloureds, Asians, and women. Therefore, the liberalising and changing trade structure appears to have disproportionately increased income and employment opportunities amongst the relatively wealthy and skilled, owing to trade-induced technological change. South Africa's trade reform in the 1990s motivated firms affected by the liberalisation to invest more in capital equipment (Edwards, 2003). Investment in capital equipment is associated with a rising skill intensity of

employment (Fedderke *et al*., 2003). Therefore, technological change undermined employment amongst the low-skilled, who are the poor.

Poor households are less likely to gain from increased demand for labour arising from increased export production due to increased capital equipment investment. The labour force is predominantly low-skilled and are therefore weakly linked to employment opportunities that will arise from increased engagement in trade liberalisation. Another challenge is the geographical setting for poor households, which limits access to employment opportunities. As a result, low-skilled labour is unlikely to gain from any increase in demand when there is improved productivity. The vulnerability of a household to the trade-induced loss of employment and associated wage income, depends strongly on the household's share of total income derived from traded sector employment. If the poor households depend on employment in traded sectors such as manufacturing, it makes them the most vulnerable, especially if that employment income constitutes most of the household total income (Pauw e*t al*., 2007).

The ability of poor households to absorb short-term income losses is a concern, as they have low savings rates, low asset accumulation, and no alternative income source. Hence, they begin to depend primarily on government transfers and other private allowances. This poses a significant challenge for households, industries, and government policies.

Trade Liberalisation Effects on Poverty through Prices and Consumption

Trade liberalisation may affect the prices of goods and services. The price changes will, in turn, affect the consumption patterns of a household. Marchand (2012) investigates the effect of trade liberalisation on households through the costs of consumption of the traded goods and the wage incomes in India. The study also estimates the distribution of welfare gains due to trade reforms whilst looking into the effect on prices of tradable goods and wages. The household consumption is affected by the domestic price changes, and the income then adjusts according to these price changes. As a result of trade liberalisation, the author found that households experienced gains at all per capita expenditure levels, and the average effect was pro-poor even though the effect varied across the per capita spectrum. The results showed that the changes in the trade policy and the introduction of trade liberalisation are not perfectly transmitted to the consumers. The market imperfections and trade costs partially segregate the households from the effects of the trade policy changes.

In Vietnam, a case study by Seshan (2005) is consistent with the Indian case where in the methodology the author accounts for labour market imperfections as opposed to assuming complete labour markets. Seshan (2014) expresses that ignoring the market imperfections gave a false picture of the welfare gains. Instead, it understated the welfare gains brought by the rice and fertiliser market integration by almost a quarter of the welfare gains found when incomplete labour markets were accounted for.

The price transmission mechanisms of rural and urban India were estimated separately and it was found that urban markets can transmit prices with a higher elasticity relative to rural markets, making the urban markets realise higher welfare gains (Marchand, 2012). The households gaining the most are the poorer households in rural and urban areas because they have a higher expenditure share in traded commodities. This shows that the channel impacts the consumers of the traded goods, who are the poorer households, which means that the trade policies should target sectors that will benefit the poor the most, in order to alleviate poverty.

Nicita (2009) analysed the distribution effects of trade liberalisation in Mexico, examining the effects on households both as consumers and factor owners. The author established that overall there was a positive effect with significant differences in the distribution of gains. The wealthier households gained relatively more, which was the opposite of the Indian case by Marchand (2012), where the poorer households gained more. The urban areas and states closer to the United States border were the larger beneficiaries whereas the more southern states were bypassed by trade liberalisation. This is due to the different factor endowments of the areas and the price transmission, for there are diverse effects on local prices. Also, the poorer households in the southern states were less exposed to the effects of trade liberalisation, for these households relied on subsistence activities and had a weaker response of manufacturing retail prices to the tariff. Mexico's engagement in trade liberalisation reduced the consumers' prices for agriculture and manufacturing products. The trade policy also increased the wage gap between the skilled and unskilled labour, which could mean a rise in inequality. Generally, there was a net positive impact for the household, as there was a reduction in the cost of consumption. The author states that there were some losers from tariff liberalisation though not explicitly identified in the study. Households dependent on agricultural activity through sales were found to have seen a depletion in their purchasing power when the liberalisation policy came into effect. Hence, the findings in this Mexican case are diverse and can be explained by the different endowments in the different states and different effects on local

prices. Generally, domestic price transmission and diverse endowments are crucial when evaluating the impact of trade liberalisation on households' welfare and poverty.

An illustration of the effect of trade liberalisation on prices and consumption and how this affects the poor, is seen with the type of goods in the poor consumer's consumption basket. In South Africa's case, Schaling (2006) finds that the Consumer Price Index (CPI) is affected by trade liberalisation, as the poor consumers have 10% of the final goods and 30% of the intermediate goods in the CPI. Therefore, imports of final goods do not have any adverse impact on the poor consumer's basket. However, the importing of intermediate goods has a potentially adverse impact on poverty via higher rand prices, and more of an effect on the CPI. Therefore, the presence of tariffs on final or intermediate goods will increase the imported goods' rand price above the home-produced goods' rand price. This encourages the domestic industries to engage in some rational pricing strategies such as Import Parity Pricing (IPP). Domestic producers will not charge the price for their goods below the cost of the imported goods, on which duties are charged. Hence the domestic consumer is left to pay a duty-inclusive price on the local goods and the final foreign goods.

Unfortunately, IPP is a well-established pricing strategy, as Hobson (2006) found that the wheat prices in South Africa are set according to this strategy. According to Van der Westhuizen (2006), the clothing industry uses the IPP strategy, as well as the producers of plastics, steel, and aluminium (Chaponda and Stern, 2006).

Therefore, the presence of IPP increases the adverse impact of tariffs on intermediate goods and final goods in the CPI, which in turn affects poverty. IPP is too negative on the price transmission mechanism. Schaling (2006) concludes that eradicating tariffs in South Africa's economy, particularly for intermediate goods, will make the producers do away with the IPP strategy. Therefore, trade liberalisation will positively affect prices and consumption, reducing poverty through the distribution channel.

Trade liberalisation affects the price of traded goods, both exports and imports, which in turn affects households. For example, if a household is a net consumer of maize, and there is no reduction in tariffs, the price of maize is likely to increase, leading to a negative effect on the household's welfare. However, if the household is a net producer, the hike in prices will positively affect its welfare. This overly simplified example shows there is no uniform effect on poor households as there are some winners and some losers. Also, the transmission of the price shocks, i.e. the rise or fall of the consumer's price, is influenced by different factors,

including taxes, distribution costs, government price controls, market institutions, industry's structure as well as market power (Winters, 2000).

Trade Liberalisation Effects on Poverty through Taxes and Government Revenue

The last channel through which trade liberalisation can affect poverty is through taxes and government spending. Since trade liberalisation implies tariff cuts, resulting in reduced revenues which can finance poverty reduction programmes, it will be detrimental to the poor. However, the government can use various domestic taxes to restore revenues lost when engaging in trade liberalisation (Sattar and Khan, 2021). According to Heo and Doanh (2009), despite the tariff reductions, the share of trade taxes in total revenue increased. This was due to the conversion of quantitative restrictions into tariffs. Whilst the tariff rates declined, total imports increased because the increase in total imports was faster than the reduction in tariffs. Also, an increase in trade liberalisation attracted high levels of economic growth which led to increased revenue from the domestic tax sources. As Vietnam highly prioritises the provision of basic social services, the growth revenue and structure of government spending reduced the poverty levels in the country.

In the South African case, tariff revenue was fairly constant since the late 1980s to the early 2000s (Matlanyane and Harmse, 2002). However, the revenue contributed a comparatively small percentage to the total government revenue with Fukasaku (2003) stating that tax revenue of the South African government was below average for upper-middle-income countries and low-middle-income countries. Calitz (2000) stated that tariff revenue for South Africa had decreased to 3.2% in 2000. However, in the year 2006, tariff revenue contributed only 4% of total revenue. Yet, Pauw *et al.,* (2007) conclude that the government channel is of lesser importance when it comes to it being a channel which poverty can be alleviated.

Trade Liberalisation Effects on Poverty-Associated Challenges

According to Hayashikawa (2009), the main challenges on poverty from trade liberalisation effects include revenue loss and adjustment burdens. With trade liberalisation comes tariff reductions which can result in revenue loss from lower tariff rates. Then, the adjustment burdens come in. The government will have the burden of making up for those adversely affected by the tariff reductions such as job and income losses. With most developing countries, they have the challenge of a debt burden (McCulloch *et al*., 2001). The countries may have

challenges when feeing up imports for the threat of an unsustainable external debt can undermine the pursuit of economic growth.

In the South African case, Stern and Ramkolowan (2021), state that the country's exports have lagged behind compared to the rest of the world in the recent decades. Also, there has been low trade performance due to the structure of the country's export basket. Therefore, the challenges for South Africa include the export performance and diversification of the exports. Whereas, diversification of exports is important for the reaction to trade shocks economic transformation, sustained growth, and development (Fosu and Abass, 2019). In addition, South Africa has various features that may affect their reaction to trade shocks further. According to Erten *et al*., (2019), the county exhibits high levels of baseline unemployment, a relatively small informal sector and high barriers of entry compared to other middle-income countries may cause weak reaction to trade shocks. Of which these characteristics directly affect the poor. Also, wages are rigid due to strong presence of unions and the manufacturing sector is weak for it was underdeveloped from the beginning of the liberalisation era.

2.6 Conclusion

This chapter has reviewed the different theories and literature around the trade and poverty debate. In a nutshell, the trade and poverty link is important for the trade shocks will have an effect on the poor households. For development to be balanced, the poor household need to be protected against the shocks and considered when making trade reforms.

There is some consistency with theory and empirical evidence in that when there is trade liberalisation, there will be an increase in trade value. From the empirical studies reviewed in this chapter there are different results for different countries. This aligns with McCulloch *et al*.'s (2001) conclusion on results being case specific. It has been revealed that it is country-specific, with multiple other issues to consider, such as why people are poor, as there can be historical reasons for marginalisation such as apartheid. Mostly, the enterprise and distribution channel are more direct channels compared to the government channel. The chapter further identified some challenges associated with trade liberalisation effects on poverty which broadly included diversification, export performance, debt burdens, revenue losses among others that could affect trade liberalisation's ability to reduce poverty.

The following chapter discusses the Overview of Trade and Poverty in South Africa, looking at the stylised facts around trade and poverty.

CHAPTER 3 OVERVIEW OF TRADE AND POVERTY IN SOUTH AFRICA

3.1 Introduction

Under the World Bank (WB) income groupings, the Republic of South Africa (RSA) is in the upper-middle-income countries group. Upper-middle-income countries have a Gross National Income (GNI) per capita (Atlas Method) of between US$4046 and US$12535, with South Africa's GNI per capita for 2018 and 2019 being US$5750 and US$6040, respectively (World Bank, 2019). The Gross Domestic Product (GDP) per capita growth for South Africa declined sharply in 2016 at 0.39%, while an improvement was recorded in 2017 with a rate of 1.41%. South Africa recorded annual GDP of 0.78% and 0.15% in 2018 and 2019, respectively. South Africa has, however, sustained sluggish growth with the economy expanding by no more than 3% per annum since 2013 (Cotterill, 2019).

For a middle-income country, South Africa records excessive poverty and inequality levels by international standards (Pauwet *et al.,* 2006), with the most recent Poverty Trends Report for 2006 - 2015 reporting 55.5% of the population living in poverty (Fin24, 2017). Inequality statistics reported a per capita expenditure Gini coefficient of 0.65 in 2015 (StatsSA, 2020), evidence that the country has high levels of inequality. These severe levels of poverty, unemployment and inequality in the country prompts policymakers to make developmental policies around these underlying structural challenges (PMG, 2010).

Trade openness has increased since the end of the Apartheid era (Cattaneo and Dodd, 2007). With the increased trade openness, economic growth has been insufficient in reducing the high unemployment and poverty levels, presenting a challenge for economists, who argue that trade openness is pro-growth and pro-poor (Magubu and Chitiga, 2007). In the South African case, the lack of change in the structural challenges of poverty, unemployment and inequality has raised concerns about whether the trade policy reforms made since 1994 interfere with development objectives (Thurlow, 2007).

South Africa's central economic policy strives to create inclusive growth and employment, with sustainable finances being part of the fiscal objectives (SA Government, 2020). With the structural challenges identified, the South African government formulated the National Development Plan (NDP) in 2012, aiming to eradicate poverty and reduce inequality by 2030. The NDP converges with the Sustainable Development Goals (SDG) by 74% and prioritises

job creation, elimination of poverty, reduction of inequality, and a growing inclusive economy. The focus is on building the capabilities of the country's population and enhancing the capacity of the state to attract investments. Moreover, central to meeting the NDP vision, are policies such as the New Growth Path (NGP), the Industrial Policy Action Plan (IPAP), and the National Infrastructure Plan (NIP), formulated to address all corners of the economy (NDP, 2012).

As a result, South Africa's trade policy has an important role to play in the quest to achieve these economic development goals. The IPAP includes a developmental trade policy and strategy which seeks to promote and upgrade the value-added, labour-absorbing industrial production and diversify the economy away from the current over-reliance on commodities and non-tradable services, as well as promote employment growth (IPAP, 2018/19). Employment growth will draw marginalised people and regions of the country into the mainstream of the industrial economy. According to Edwards and Lawrence (2012), for South Africa to meet the NDP aspirations, the economy will need to expand at an average of at least 6% per annum in GDP. Therefore, the country's engagement in trade must trigger robust economic growth to achieve its goals.

This chapter will focus on the overview of trade and poverty in South Africa. Section 3.2 will discuss the historical background and current strategies of South Africa's trade policy. Section 3.3 will summarise South Africa's main trade agreements followed by section 3.3 which will discuss the poverty and inequality in South Africa. Section 3.5 will conclude the chapter.

3.2 Historical Background and Current Strategies of South Africa's Trade Policy

South Africa's trade policy strategy has been evolving over the years. Before the 1970s, the country had an inward-oriented trade policy (Khumalo, 2019), which is a policy that has limits on investments and tariffs from abroad, in contrast to the outward-oriented trade policies that eliminate trade barriers and promote high levels of trade openness (Table 3.1). Post the 1970s, South Africa moved towards an export promotion strategy introducing tax allowances, subsidised loans, and rebates to promote exporting activities. Import substitution industrialisation is perceived to have a limitation on development strategies (Zahonogo, 2016). South Africa's transition to an export promotion strategy in the 1970s is evidence of this, where the contribution of imports towards economic growth began to decline. The export sector did not significantly determine their economic activity, hence the change of focus towards exports

rather than over-reliance on imports (Fallon and Pereira de Silva, 1994). Again, during the import substitution industrialisation era, South Africa had a system of quantitative restrictions in preference for tariff-based protection (Belli *et al*., 1993). Thus, the shift from import substitution industrialisation began with the easing of quantitative restrictions and an introduction of the Export Development Assistance Scheme in 1972 (Malefane and Odhiambo, 2017). During this period, South Africa was highly dependent on gold for foreign exchange (Jenkins *et al*., 1997). Therefore, the Reynders Commission of Inquiry in 1972 was developed to assist in diversification towards non-gold exports through export promotion methods (Edwards, 2006).

During the 1980s, there was a need to establish employment-creating international competitiveness, leading to further restructuring of trade and industrial policies. Also, the country experienced a decline in international competitiveness, encouraging further reform in policies. These policies leaned towards tariff reforms, and supply-side measures such as tariff reductions were introduced to stimulate industrial investment, job opportunities, and exports (Malefane and Odhiambo, 2017). During this period, the country's trade policy remained protectionist (Edwards and Lawrence, 2006) as per the Kleu Study Group 1983's recommendations, to protect the local industry and exercise caution to avoid cost-push inflation. According to Edwards (2006), the protection was in response to the balance of payment pressures from the debt crisis experienced in the mid-1980s. More businesses applied for protection through *ad valorem* and formula duties in a bid to survive the economic downturn (Bell, 1992).

The industrial policy and development strategy in the 1980s received criticisms for the heavy use of export incentives as they showed a bias towards imported inputs. The export incentives were trade-restricting and showed discrimination by favouring imports, with a sizeable anti-export bias towards non-commodity exports (Edwards and Lawrence, 2008).

In the 1990s, the South African economy experienced trade-led growth. At the beginning of this period, there was an introduction of supply-side measures such as the General Export Incentive Scheme (GEIS) to further stimulate exports. GEIS offered qualifying exporters assistance, based on the formula supplied in the guidelines governing the scheme (Malefane and Odhiambo, 2017). Together with the implementation of the structural adjustment programmes for motor vehicle, clothing and textiles industries, and reduction of import surcharges, GEIS reduced the level of protection (Edwards, 2006). Therefore, the trade-led

growth stemmed from greater openness in the economy. Provided below is a table of South Africa's Trade Policy interventions from 1910 to 2021 (Table 3.1).

Table 3. 1 Sequencing of trade policy interventions in South Africa (1910-2021)

Year(s)	Policy intervention
1910	Sir Thomas Cullinan Commission introduced.
1925	Implementation of the 1925 Customs Tariff and Excise Duty Amendment Act.
1947	The signing of the General Agreement on Tariffs and Trade (GATT).
1948	Introduction of quantitative restrictions as the main instrument of protection.
1949	Adoption of the import licensing system. About 75% of imports to South Africa were subjected to licensing.
1958	Establishment of the Commission of Enquiry into Policy relating to the Protection of Industries (the Viljoen Commission).
1972	Establishment of the Commission of Inquiry into Export Trade of the Republic of South Africa (the Reynders Commission).
1972	Introduction of the Export Development Assistance scheme: Tax allowance for marketing expenses incurred in connection with exporting.
1976	Generalised System of Preferences (United States of America).
1977	Recommendation of export development by the Van Huyssteen Committee.
1979 - 80	Rise in gold price resulting in a sharp appreciation of the rand.
1980	Introduction of a reinforced system of export incentives.
1983	Recommendation of a move away from import-substituting industrialisation by the Kleu Study Group.
1983	Abolishment of the dual exchange rate system.
1983 - 85	Relaxation of import permits by switching from a positive list to a negative list. Real depreciation of the rand.
1985	Recommendation of a dual system of import substitution industrialisation and export promotion by Government white paper.
1985	The dual-exchange rate system was re-introduced.
1985	Introduction of 10% import surcharge on all imported goods not bound by GATT.
1987	Proactive move towards trade policy reform by the Board of Trade and Industry.

1989	Introduction of structural adjustment programmes involving export incentives for motor vehicles and textiles and clothing industries.
1990	Introduction of the General Export Incentives Scheme (GEIS).
1990	The phasing out of import surcharges commences.
1994	Import surcharges were abolished for capital and intermediate goods.
1994	The conversion of quantitative restrictions to tariffs is completed.
1995	Elimination of the remaining import surcharges is completed.
1995	Enactment of SA's GATT Uruguay Round mandate.
1996	Formulation of the new Tariff Rationalisation Process (TRP).
1996	Signing of the new bilateral trade agreement between Zimbabwe and South Africa.
1996	Signing of the SADC Free Trade Protocol.
1997	Termination of export subsidies provided under GEIS.
2000	Implementation of SA-EU Trade, Development, and Cooperation Agreement (TDCA).
2000	Granting of preferential access to the US for clothing and selected products under the Africa Growth and Opportunity Act (AGOA).
2000	Implementation of the Southern African Development Community Free Trade Protocol.
2002	Inception of the 2002 SACU Agreement.
2004	Signing of the preferential trade agreement between SACU and MERCUSOR.
2006	Signing of the EFTA-SACU Free Trade Agreement.
2008	Signing of the SACU Trade, Investment, and Development Cooperation Agreement (TIDCA) with the USA.
2008	Negotiations on SADC-EAC-COMESA Tripartite FTA commence.
2011	The signing of Brazil, Russia, India, China, and South Africa (BRICS) partnership.
2015	COMESA-EAC-SADC Tripartite FTA is launched 2015 Continental Free Trade Area (CFTA) negotiations launch
2016	EU-SADC Economic Partnership Agreement (EPA) is signed Preferential Trade Agreement between SACU and MERCOSUR comes into force
2019	African Continental Free Trade Area (AfCFTA) comes into force. SACU+Mozambique EPA is signed
2021	SACU+Mozambique EPA comes into force. AfCFTA due to be implemented

Source: Malefane and Odhiambo (2017), Stern and Ramkolowan (2021)

South Africa's economic growth increased from 1990 to 2008 (StatsSA, 2016), and trade increased as a proportion of GDP. However, both trade openness and GDP growth have steadily declined since 2012 (Stern and Ramkolowan, 2021). During the period 1990-2008 the export expansion could possibly explain the increase in GDP, with the economic growth attracting an increase in imports (Vickers, 2014). Therefore, the higher levels of growth were partly due to the favourable trade conditions.

South Africa relies heavily on imports for consumption demand and exports to support production and employment (Stern and Ramkolowan, 2021). In 1990, the country contributed 0.6% of total world's exports and 0.5% of total world's imports as seen in figure 3.1. By 2019, the contribution had dropped to 0.4% for the exports and 0.4% for the imports. Possible reason for the decrease in exports could be the bias against exports that increased post 2008. South Africa has been overly cautious and defensive in their approach to new trade agreements. There has been an increase in localisation, whilst the effective rates of protectionism remain high in some sectors (Stern and Ramkolowan, 2021). According to trade theory, protectionism and localisation will increase prices due to decreased competitiveness. Therefore, producing for a protected domestic market with increased prices will raise barriers for new entrants.

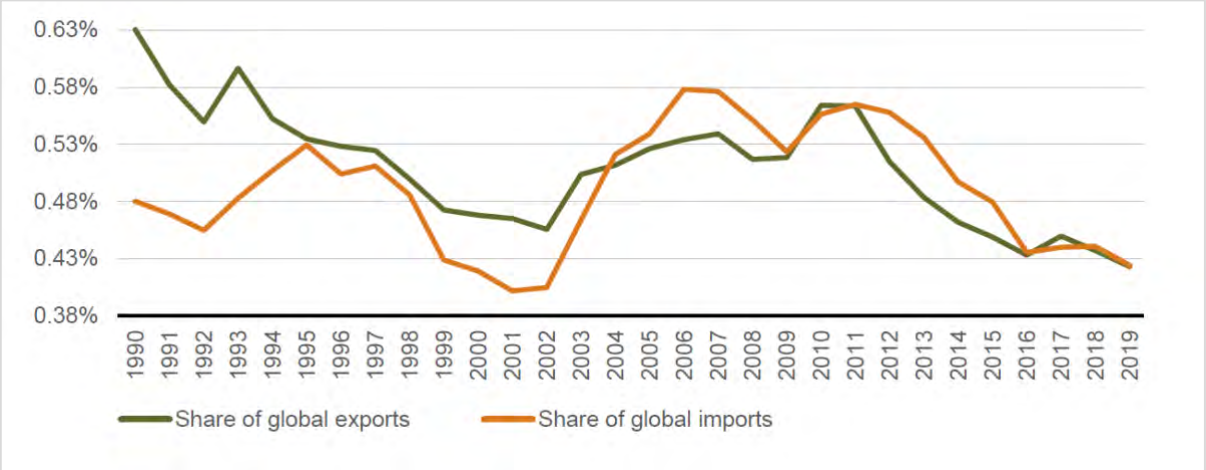

Figure 3. 1 South Africa's share of global exports and imports

Source Stern and Ramkolowan (2021)

Figure 3.1 above shows South Africa's share of global exports and imports from 1990 to 2019. There was a decrease in both the share of global imports and exports between 1990 and 1992. There was an increase 1993 until 1996 where the share of global exports began to decline and

continued until 2002. The share of global imports also gradually declined, however increased faster than the global share of exports post 2002. By the mid-2000s both the share of global exports and imports had improved with the share of global imports higher. Post 2010 there was a gradual decline of both share of imports and exports. By 2019 both share of global exports and imports were on the same level at 0.4% share of the global exports and imports.

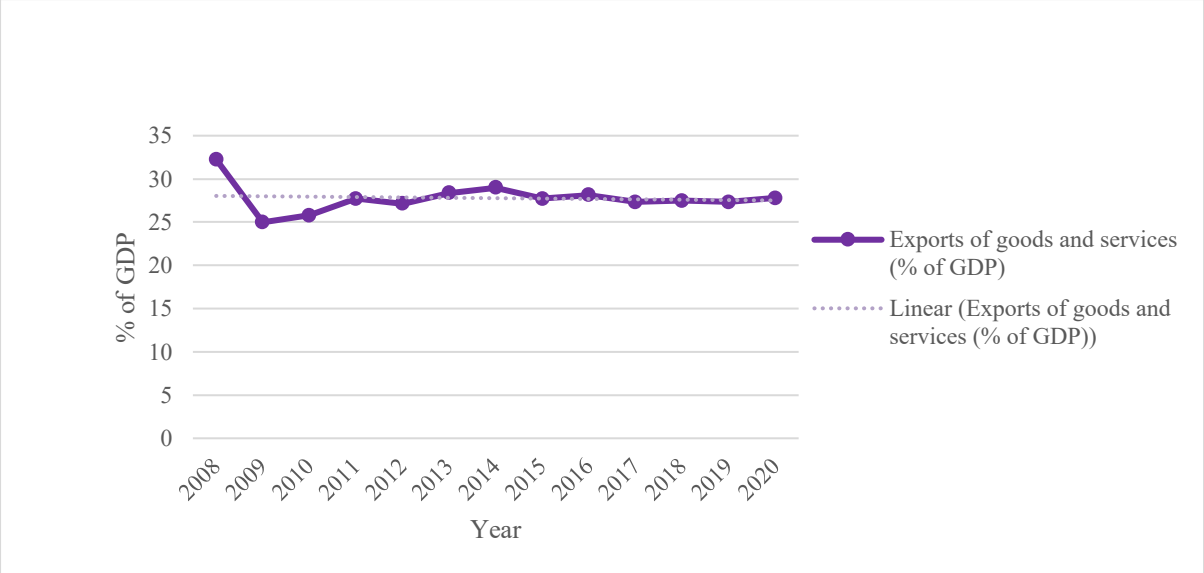

Figure 3. 2 South Africa's Exports as a percentage of GDP

Source: Data was generated from World Bank (2020) and graphs were made by the author.

Figure 3.2 shows South Africa's exports as a percentage of GDP. There has been a decline since 2008. By 2020 the percentage had not gone back to the 2008 levels. The trend line shows a gradual decline of exports as a percentage to GDP between 2008 and 2017. The exports then stabilised between 2017 to 2020.

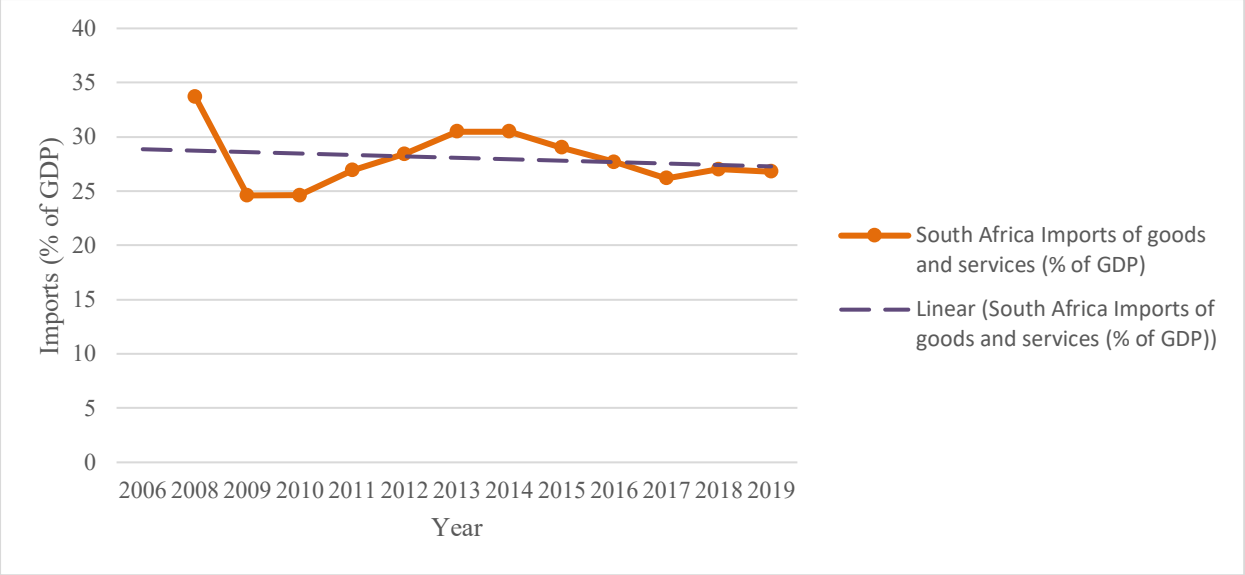

Figure 3. 3 South Africa's Imports of goods and services as a percentage of GDP

Source: Data was generated from World Bank (2020) and graphs were made by the author.

Figure 3.3 shows South Africa's imports as a percentage of GDP. There was a decline between 2008 and 2009. Post 2010 the imports increased steadily until 2013 and 2014 where a gradual decline occurred. In 2018 the imports increased slightly.

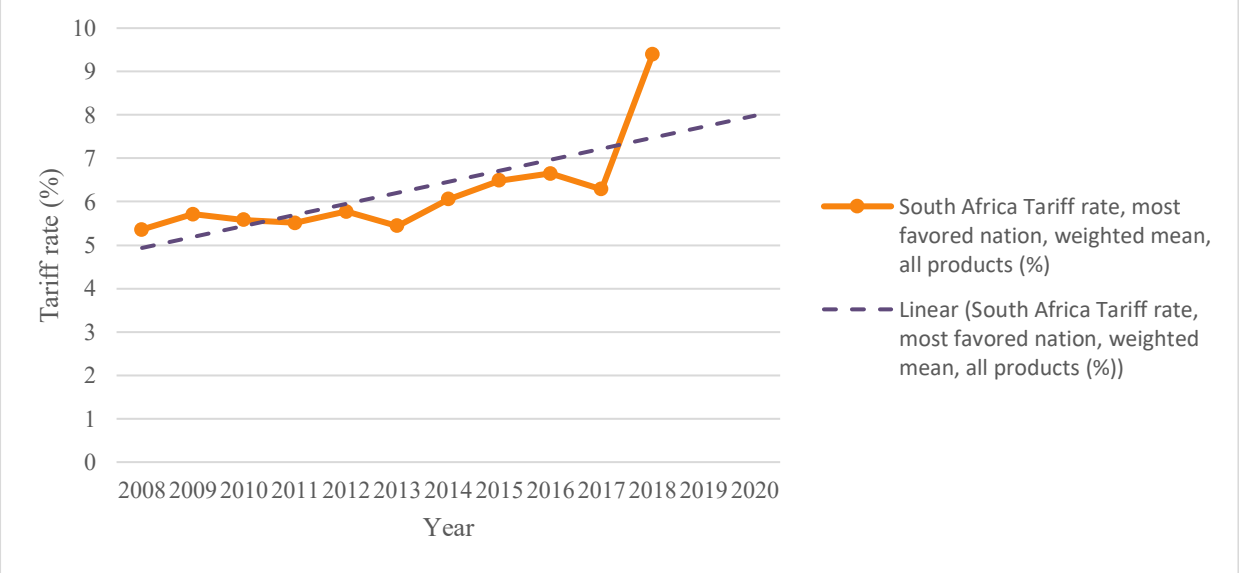

Figure 3. 4 South Africa's Tariff rate, most favored nation, weighted mean, all products

Source: Data was generated from World Bank (2020) and graphs were made by the author.

Using the Most Favoured Nation (MFN) weighted mean tariff rate, there has been a steady increase in South Africa's tariff rate (Figure 3.4). In 2008 the tariff rate was 4.76%. It steadily increased until a slight drop in 2014 to 5.44%. However, there was a steady rise with the rate reaching 9.39% in 2019. MFN rates are the highest and most restrictive tariffs that WTO members charge one another. This means that post 2019, the trade barriers in South Africa increased. This trend is in line with the claims of Stern and Ramkolowan (2021) in that there is a notable slowdown in trade reforms as tariff rates have increased.

According to Stern and Ramkolowan (2021), South Africa's exports have lagged behind compared to the rest of the world in the recent decades. The low trade performance has been due to the structure of the country's export basket, which is still mainly commodity products (Omarjee, 2021). Commodity products are labour-intensive products. Appendix A shows the merchandise exports and imports for South Africa from 2006 to 2020 expressed in expressed in thousands of United States dollars. For the exports, low-skill and technology-intensive manufactures have decreased since 2006. The exports were 6897449,724 in 2006 and decreased to 5898197,218 in 2020. On the other hand, the imports of low-skill and technology-intensive manufactures increased from 5160833,404 in 2006 to 6228235,312 in 2020. However, in 2020, this was the lowest since 2011. Therefore, a decrease in exports will cause unemployment among the low-skilled labourers who are the poor whilst the decrease in imports will reduce the ability of South Africa to meet the consumption demand. With imports and exports decreasing and competitiveness in some sectors decreasing, there will be a possibility of consumption prices to rise which will adversely hurt the poor. Both employment and consumption are important channels for which trade influence the poor.

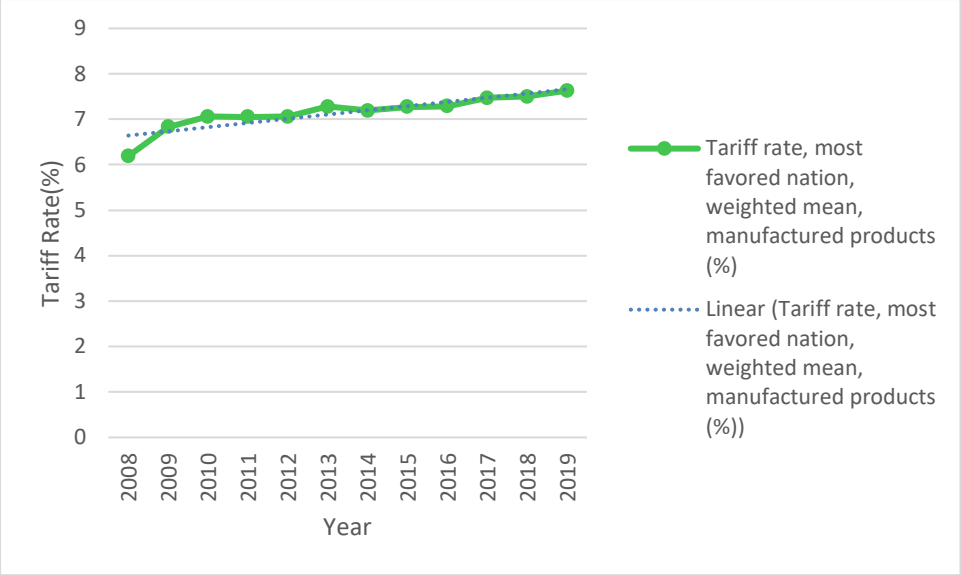

Figure 3. 5 Tariff rate, most favoured nation, weighted mean, manufactured products (%)

Source: Data was generated from World Bank (2020) and graphs were made by the author.

The MFN weighted mean for the manufactured products tariffs have also increased significantly since 2008. A shown in figure 3.5, there was an increase in rates from 6.19% in 2008 to 7.63% in 2019. The trendline shows an increase in MFN tariff rates, weighted mean for manufactured goods in the past decade. This is evidence that tariff barriers have increased, showing the protectionist measure the country may be engaging in. This could possibly affect competitiveness in the economy leading to high consumption prices as South Africa imports to meet the consumption demand for manufactured products. This evidence supports the evidence on Appendix A.

Overall, the labour productivity will be reduced due to the tariff increase, and this will reduce wages and income.

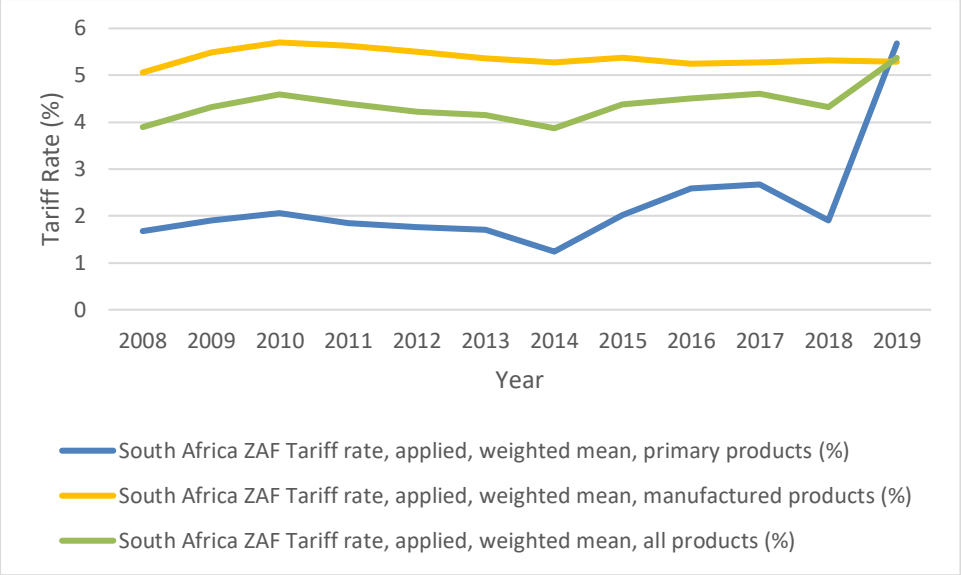

Figure 3. 6 South Africa's Tariff rate, applied, weighted mean, primary, manufactured and all products (%)

Source: Data was generated from World Bank (2020) and graphs were made by the author.

The applied weighted mean tariff rates are shown on figure 3.6 above. The tariff rate for the primary products are much lower than those of the manufactured products. This shows that South Africa's trade policy has liberalised the primary products sector more than the manufactured products sector. However, the tariff rates have been increasing from 1.9% in 2008 to 5.68% in 2019 for the primary products. By 2019, the manufactured products tariffs were below the primary products with the rate of 5.29%.

3.3 South Africa's main trade agreements

In 1995 South Africa became a member of the World Trade Organisation (WTO). Part of the requirements as a member of the organisation meant engaging in trade liberalisation. The WTO General Agreements to Tariffs and Trade (GATT) Uruguay Round commits members to eliminate or reduce tariff rates and non-tariff barriers. South Africa made its offer to the WTO in line with the GATT Uruguay Round mandate to bind 98% of all tariff lines and reduce the number of tariff rates to 6 and rationalise over 12000 tariff lines, as well as a replacement of quantitative restrictions on agricultural products with tariffs. As shown in Appendix B the number of tariff lines and the duty-free tariff lines from 2006-2020. Manufactured goods, ores and metals have the highest number of tariff lines and duty-free tariff lines. These have been increasing since 2006, showing that South Africa is honouring the GATT Uruguay Round

mandate. Furthermore, as part of the mandate's requirements, South Africa had to terminate the GEIS mandate to export subsidies (Edwards, 2006).

Henceforth, the country engaged in various trade agreements, such as the bilateral trade agreements with Zimbabwe and the Southern African Development Committee (SADC) Free Trade Protocol, both signed in 1996 as shown in Table 3.1. Following that was the Development and Cooperation Agreement signed with the European Union (EU) and the African Growth and Opportunity Act (AGOA) signed with the United States of America (USA), both in 2002, expanding the trade horizons for South Africa (Malefane and Odhiambo, 2017).

More recently, the Trade Policy, Negotiations, and Cooperation Division of the Department of Trade Industry and Competition seek to foster African development by engaging in deeper regional and continental integration, evidence of the enthusiasm South Africa has for the African Continental Free Trade Area Agreement (AfCFTA). The AfCFTA presents an opportunity to put an end to extreme poverty of thirty million people and increase income for sixty-eight million people living on less than US$5.50 a day (World Bank, 2020).

South Africa has signed several trade agreements as shown in Appendix A, further depicting the country's will to engage in trade, as trade agreements signify the political will to lower trade barriers. The trade agreements are across the board from within the African continent to Asia, Europe, the Americas, and the Middle East (DTI, 2020).

Trade theory depicts trade liberalisation as positive for welfare and this is elaborated as part of the objectives in the trade agreements South Africa is involved in. For example, one of the trade agreements in Appendix C, the Southern African Customs Union (SACU), has a mission to promote sustainable economic growth and create employment whilst reducing poverty (SACU, 2013). The Southern African Development Community (SADC) has a poverty eradication agenda. The agreement looks to enhance productive capabilities and produce income earning opportunities for the poor (SADC, 2012). The Trade, Development and Cooperation Agreement (TDCA) with the European Union (EU) support's South Africa's economic and social development goals. Therefore, the agreement also states development cooperation which includes facilitating job creation and advancing education, training and innovation (EUR-Lex, 2018).

3.4 Poverty and inequality in South Africa

The post-apartheid government inherited a highly unequal and poverty-stricken society. Poverty is high in former apartheid settlements, which are still being occupied by the population (Francis and Webster, 2019). Although South Africa has made progress in poverty reduction since 1994 in spite of two decades of stagnant economic growth, the trajectory of poverty reduction reversed in 2011, and started increasing again. (World Bank, 2018). Table 3.2 shows South Africa's poverty statistics under different poverty lines. The table illustrates that the country has made inadequate progress in addressing poverty and inequality despite being an open country, fully participating in international trade and finance.

Table 3. 2 Poverty lines in South Africa 2014

Poverty	**Number of poor (mil)**	**Rate (%)**
National Poverty Line	30.3	55.5
International Poverty Line ZAR12 (2014) or US$1.90 (2011 PPP) per day per capita	10.3	18.9
Lower Middle-Income Class Poverty Line ZAR20 (2014) or US$3.20 (2011 PPP) per day per capita	20.5	37.6
Upper Middle-Income Class Poverty Line ZAR 34.60 (2014) or $5.50 (2011 PPP) per day per capita	31.1	57.1

Source: World Bank (2018).

Due to the segregation experienced by households during apartheid, race and gender largely determine the poverty profile in South Africa. Bhorat and Van der Westhuizen (2012) conducted a study using the headcount rate and poverty gap ratio to track poverty changes for the first decade of democracy. Viewing poverty nationally and using a poverty line of ZAR322 a month at 2000 prices, the authors find that absolute poverty declined by 3.5% points. About

52.5% of households were in poverty in 1995 and by 2005 this figure had declined to 49%. At a lower poverty line of ZAR174 a month, there was a decline of 7 percentage points from 31% to 24% in the same period. The more considerable decline at the lower poverty line suggests that those in deeper poverty mainly experienced welfare improvements during this decade. Relative poverty followed a similar trend. At the ZAR322 poverty line, poverty declined from 26% to 21%, and at the lower poverty line, from 12% to 7% in 1995 and 2005, respectively.

By race, only individuals experienced a decline in poverty levels. The decline by race was relatively more extensive than the decline at the national rate. The decline is due to the African population being the majority. By gender, the data illustrates that both male-and female-headed households experienced a decline in poverty lines. Male-headed households experienced a relatively more considerable decrease of over 6%, using the headcount ratio at ZAR322 per month poverty line, while the female-headed households experienced a slightly larger decline using the headcount ratio at the ZAR174 per month poverty line (Bhorat and Van der Westhuizen, 2012). Despite the female-headed households' more considerable poverty reduction, these households are still more vulnerable in both absolute and relative terms compared to the male-headed households. The authors conclude that in both absolute and relative terms, poverty in the first decade of democracy declined significantly in the country.

The poverty reduction in the first decade of democracy was due to a few critical policy interventions, such as social grants introduced by the post-apartheid government and redistributive fiscal policies. World Bank (2014) statistics show that 70% of grants and 54% of health spending went towards the poorest section of the population. From 1995 to 2011, extreme poverty was cut by half from 34.4% to 16.5%. Poverty in South Africa continues to reflect the historical and contemporary racial divisions in the country.

More recently, progress on addressing poverty reduction has decreased. StatsSA (2017) recorded 53.2% of the population being in poverty in 2011. By 2015, this had risen to 55.5% of the population, using the upper-bound poverty line of ZAR992 per person a month. Poverty is most prevalent amongst the youth (StatsSA, 2017).

Poverty and inequality are mutually inclusive in South Africa (Finn and Leibbrandt, 2016). Even though the two cases are different, it is impossible to consider them independently from each other. Post-apartheid there has been no significant reduction in overall inequality, as Finn (2015) calculates the Gini coefficient for 2015 to be 0.65. Between 1993 and 2014, it decreased slightly from a coefficient of 0.68 to 0.64, which is similar to the World Bank statistics used to

generate figure 5. Economic and social powers contribute towards it, and overall inequality still persists today as a legacy from the apartheid regime. South Africa's Gini index was 0.63 in 2008 (Figure 3.7) and later increased to 0.634 in 2010. However, by 2014 it was back to 0.63. Seemingly, there has been an increase in 2015, when the Gini index reached 0.65, reporting high levels of inequality.

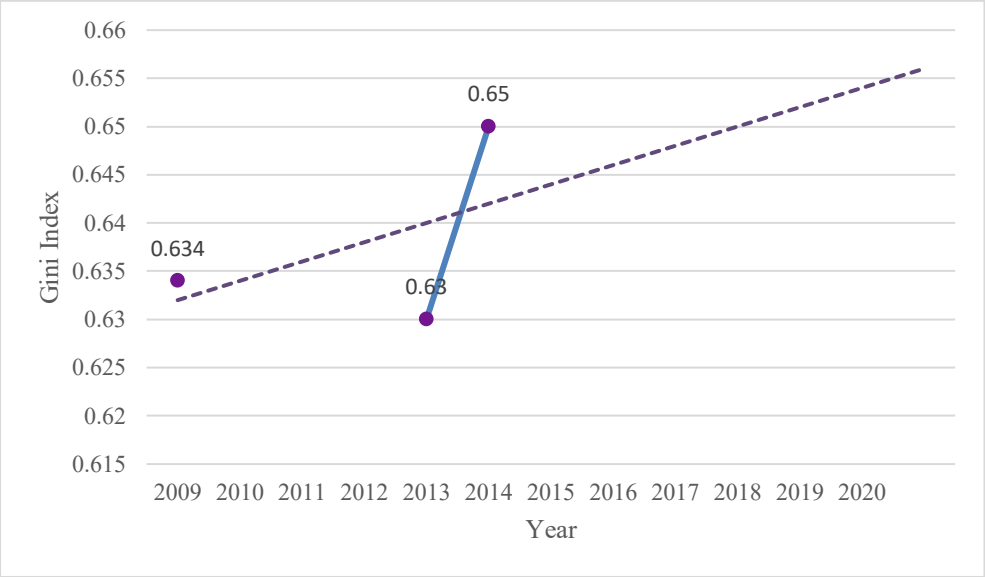

Figure 3. 7 South Africa's Gini Index (2008-2020)

Source: Data was generated from World Bank (2020) and graphs were made by the author.

Wage income is the factor that drives inequality, and is also a critical determinant of household poverty. According to the Palma ratio, South Africa's top ten percent of the population spent approximately 8.6 times more than the bottom forty percent of the population in 2006. By 2015 there was an improvement with the top ten percent spending 7.9 times more than the bottom forty percent. Though having decreased from 2006 to 2015, income inequality remains high and a severe problem. In 2015 the labour market was said to contribute 74.2% to overall income inequality. On average, female workers earn 30% less than male workers (StatsSA, 2020). The Inequality Trends in South Africa Report (2019) found that males are more likely to be employed and receive relatively better-paying jobs.

Africans have the worst employment rates. In addition to this, when employed, this group earns the lowest wages. In contrast, the White group earns the highest wages compared to the other population groups. Between 2011 and 2015, the mean real earnings for employed Africans was ZAR6899 per month; Coloureds and Indians/Asians were ZAR9339 and ZAR14235 per month respectively, and Whites ZAR24646 per month (StatsSA, 2020).

All in all, this shows that there is high inequality polarisation coupled with very high levels of chronic poverty, with a few high-income earners and a relatively small middle-class (World Bank, 2018).

Undoubtedly, from a macroeconomic context, the low economic growth compared to other upper-middle-income countries contributes to the high levels of poverty and inequality. The labour market is mostly affected, for there are low employment levels in the economy, especially among youth.

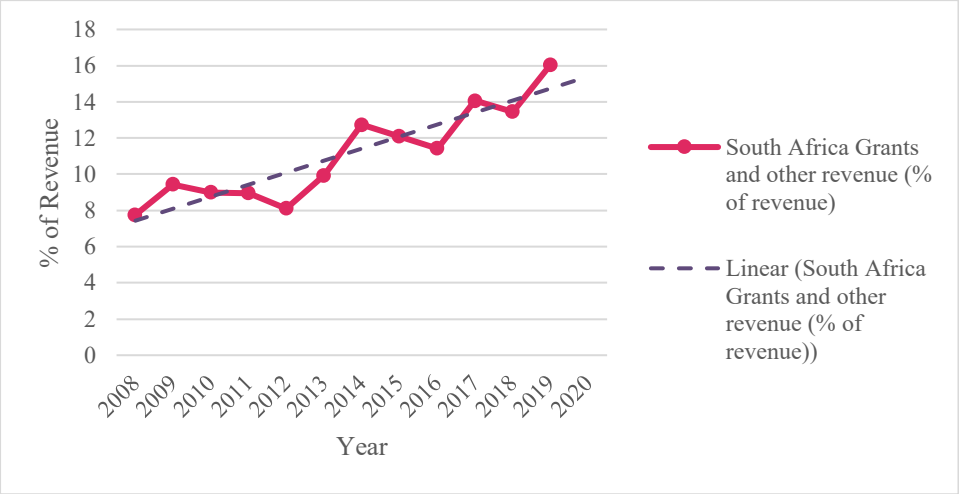

Figure 3. 8a South Africa's Grants and other revenue as a percentage of revenue

Source: Data was generated from World Bank (2020) and graphs were made by the author.

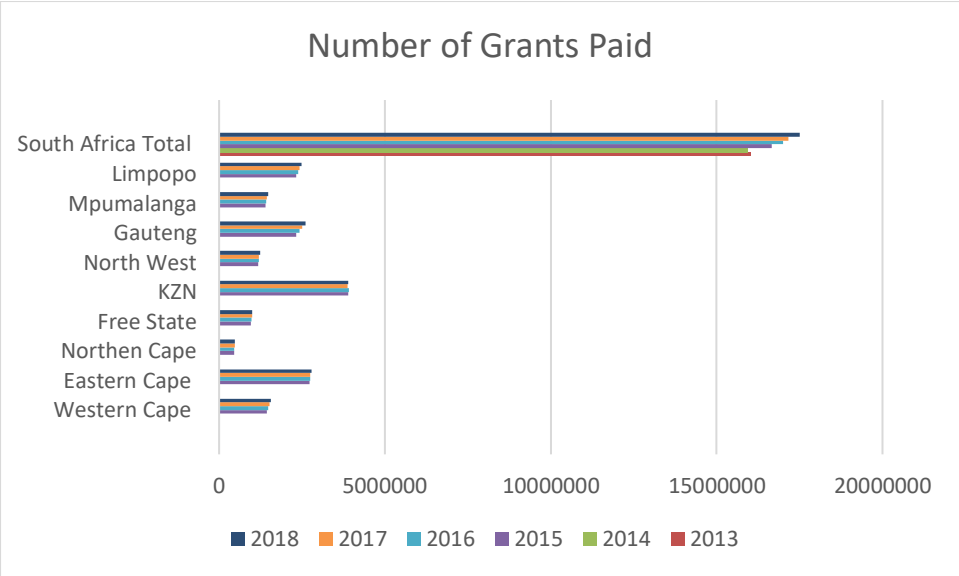

Figure 3. 8b Number of grants received by type

Source: Data was generated from World Bank (2020) and graphs were made by the author.

The grants have been seen as an avenue to reduce poverty, inequality and improve economic development (Ngwakwe and Badar, 2021). According to Neves *et al*., (2009) it has been found that in South Africa, social grants improve the welfare of the recipients and support consumption. Grants help facilitate investments in both human capital and productive assets and activities whilst mitigating economic shocks that can disadvantage the poor households.

South Africa's grants as a percentage to revenue have been steadily increasing over the years as seen in figure 3.8a and figure 3.8b. From 7.76% of revenue contributing towards grants in 2008, in 2019 the figure had reached 16.1% in figure 3.8a. Also, the number of grants paid has increased, totalling 17515081 in 2018, with KwaZulu-Natal Province being the province receiving the highest number of grants. This shows that South Africa prioritises government spending on social grants.

3.6 Conclusion

This chapter explored the trade and poverty overview in South Africa. The country has been thus far liberated in trade, however, there is low trade performance for the country. There are still has high levels of poverty and inequality for an upper-middle-income country. Historically, South Africa has had a comprehensive trade policy with the extent of trade liberalisation increasing post-1994. In particular, the period 1990-2008 is said to have seen significant economic growth (Edwards and Lawrence, 2008) whilst poverty lines and inequality reduced in the same period (Bhorat and Van der Westhuizen, 2012). We see that some racial groups have been marginalised and may have had difficulty in extracting themselves from poverty and participating in the economic activities that may have been gratified by the more open trade policies. The chapter also explored the stylised facts around trade and poverty in South Africa and thus concludes that the trade policies have not been able to reduce poverty at a rate reached by other upper-middle-income countries. South Africa may have liberalised, however post 2008, the overall tariffs have increased with a defensive approach to trade agreements (Stern and Ramkolowan, 2021), whilst economic growth has been sluggish and poverty has increased. South Africa imports goods and services in order to meet consumption demand and yet imports show a gradual decline since 2008. Part of the country's export activity is for employment creation, yet exports have been relatively stagnant since 2017 and are lower than the 2008 rates. However, improving social welfare for the marginalised is still a priority for the South African

government and has increased the number of grants pay-outs. The following chapter discusses the research design, methodology and data. The chapter will outline how the objective of mapping out the transmission mechanism of South Africa's trade and poverty reduction was employed.

CHAPTER 4 RESEARCH DESIGN, METHODOLOGY AND DATA

4.1 Introduction

This chapter addresses the methods employed to map trade liberalisation's transmission mechanism in reducing poverty in South Africa. The chapter will begin by explaining the research paradigm used in this research. Section 4.3 discusses the research design and methodology where data and data sources are explored. This section also describes the model specification and defines the variables. Before the conclusion, the estimation technique is outlined.

4.2 Research Paradigm

Research paradigms are conceptual lenses through which researchers examine their methodologies within the research, in order to determine what research method will be used and how the data will be analysed (Kivuja and Kuyini, 2017). A paradigm is important as it determines what is being studied, the processes which must be undertaken, and how to interpret the results. Researchers need to understand and choose the appropriate research paradigm so as to communicate the knowledge on credible foundations and yield valid research (Rehman and Alharthi, 2016).

This study follows a positivist paradigm, which asserts that actual events were observed from empirical evidence and then explained using logical analysis (Bell, 2010). Studies that follow a positivist approach have observable and quantifiable findings. While positivism relies on quantifiable observations used in statistical analysis, the three basic principles of the paradigm are: i) the world exists externally and is viewed objectively, ii) the research being conducted is value-free, and iii) the researcher is independent and takes the role of an objective analyst (Blumberg *et al*., 2008).

Positivism's primary goal is to generate explanatory causal relationships that predict and control the phenomena in question (Crook and Garratt, 2005). This study aims to find the transmission mechanism from trade liberalisation to poverty reduction in South Africa. We hypothesise that there will be evidence of correlation and causation between trade liberalisation and poverty reduction, thus making the positivist paradigm appropriate. The hypothesis of this study are as follows:

H_0: Trade liberalisation has no effect on poverty

H_1: Trade liberalisation has an effect on poverty

The positivist paradigm relies on the hypothetico-deductive approach to verify the a priori hypotheses that are usually stated quantitatively, where functional relationships can be deduced between independent and dependent variables. The hypothetico-deductive approach follows the line of reasoning that a hypothesis is developed based on existing theory and a research strategy then tests that hypothesis (Crook and Garratt, 2005; Bell, 2010). Testing the hypothesis is usually done by applying appropriate quantitative methods such as regression and correlation analysis, examining the outcome and possibly modifying the theory in instances where the hypothesis is null. Overall, this approach will possibly explain causal relationships between concepts and variables and measure them quantitatively.

Post-positivism evolved from the positivist paradigm in an effort to address the shortcomings of the positivist approach. This paradigm introduces subjectivity, for it follows that there cannot be one solid conclusion from objectivity (Fischer, 1998). Post-positivist studies triangulate both qualitative and quantitative approaches when collecting and analysing the data. It views the social reality with all its imperfections, unlike positivism which views social reality like natural reality. Due to the nature of this study and the availability of empirical data which is measurable, and that there is isolation of variables, positivism is more appropriate and hence the post-positivism paradigm was discarded.

Interpretivist studies investigate the subjective world of human experiences with the understanding that reality is socially constructed (Kivuja and Kuyini, 2017). This paradigm argues that causality and effect are mutually interdependent and supposes the need to understand the individual rather than universal law. The interpretivist paradigm is not applicable to this study, which takes a more quantitative approach rather than a qualitative one.

Lastly, the critical theory paradigm seeks to address political, social, and economic issues which lead to social injustices. It uses the neo-Marxist methodology and concerns itself with a narrative, describing moral and ethical choices being made in society (Taylor and Medina, 2011). As this study is not addressing social injustices in qualitative measures, this is not an appropriate paradigm to apply here.

4.3 Research Design and Methodology

From a broad perspective, this study employs a quantitative approach, for it gathers facts and investigates the relationships between the facts using numerical data (Bell, 2010). The positivism paradigm encompasses both causal-comparative and correlation research designs (Asamoah, 2014). The causal-comparative approach investigates the cause-effect relationship between variables (Busk, 2017), where the researcher examines how the independent variables will affect the dependent variables (Williams, 2007), while the correlational research design measures the relationship between two variables without the researcher controlling either of them. There is reason to anticipate a relationship between the trade and poverty variables and measuring correlation may be a good starting point for this research. Correlation does not prove that there is causation but can support the causality hypothesis. Also, a correlational research design is used when the study is believed to have a causal relationship between the two phenomena, particularly when it is impractical to conduct experimental research involving manipulating one of the variables in the study.

4.3.1 Data and Data Sources

This study will use quantitative data as required by the research paradigm, to avoid personal bias and to investigate the relationship between trade and poverty from 2008-2017. The data will be analysed through numerical comparisons and statistical inferences and reported through statistical analysis (Minichiello, 1990).

All the poverty variables except remittances are the dependent variables, including the trade-GDP ratio, which will be calculated by dividing the aggregate value of imports and exports of the period from 2008 to 2017 by the gross domestic product of the same period. This value will indicate the importance of trade liberalisation in the South African economy. The NIDS dataset sets out in which industry the different participants are employed or self-employed. This information made it possible to search for the industry tariffs, which were used along with the Trade-GDP ratio to complete the relevant trade liberalisation data needed for the study.

For the poverty data, a pooled cross-sectional dataset accessed from National Income Dynamic Study (NIDS), which was merged longitudinally, was used for the study. NIDS is a household panel study in South Africa that seeks to track and understand the shifting face of poverty in

the country. It examines the livelihood of individuals and households over time. The first five iterations of the study were implemented by the Southern Africa Labour and Development Research Unit (SALDU). This study represents a national sample of over twenty-eight thousand (28000) individuals in seven thousand three hundred (7300) households across the country. The study also provides information about how households grapple with positive or negative shocks such as unemployment of the sole breadwinner in the household or an unemployed relative obtaining a job. NIDS data is collected in waves. The collection began in 2008 and has been generated in five waves to date. The study will use the five waves for the period 2008-2017—looking specifically at the household and adult data as this is what applies to this study.

The data was screened in the following process:

1. The NIDS dataset was merged into panel data, from wave 1 to wave 5, using the STATA programme, following which, variables of interest were selected according to the poverty theories reviewed in the literature, so as to be appropriate for this study. The variables chosen were gender, race, age, education, income (where all observed income variables were summed in order to have one total income variable), total grants received from the government, remittances, employment status and lastly, the industry in which the participants are employed in order to select the appropriate industry tariffs.

2. Industry tariffs data was accessed on the open-source databases powered by the World Trade Organisation (WTO), World Bank (WB), United Nations Conferences on Trade and Development (UNCTAD) and World Integrated Trade Solution (WITS). The Most Favoured Nation (MFN) weighted averaged import tariffs were the industry tariffs selected. Upon identifying the industries in which the respondents in the NIDS dataset were employed, the industry tariffs were selected appropriately. The identified industries in question are agriculture, manufacturing, transport, electricity, mining, financial intermediation, community and social services, construction, private households, and wholesale and retailers.

4.3.2 Model Specification

According to Fauzel (2020), model specification describes the economic model that has been adopted to analyse the hypothesised link between the dependent and independent variables. As stated above, the hypothesis for this study are as follows:

H_O: Trade liberalisation has no effect on poverty

H_1: Trade liberalisation has an effect on poverty

The basic specification model is based on previous studies done by Butt et al. (2007), Shahbaz (2008) and particularly Fauzel's (2020) study on the impact of trade on poverty reduction in Mauritius. The model takes the following functional form:

$f(x) = D + E + G + CV$……(1)

Where f(x) =

D= Distribution Channel

E= Enterprise Channel

G = Government Channel

CV = Control Variables

More specifically, the poverty variable that is the dependant variable is remittances. Therefore, the function will be split into three, according to the three channels, giving the following equations:

Distribution Model:

$Rem_t = \alpha_0 + \beta_1 industry\_tariffs_t + \beta_2 trgdp_t + \beta_3 tot_t + \beta_4 cpi\_n_t + \beta_5 income_t + \varepsilon_t$…….. …… (2)

$Rem_t = \alpha_0 + \beta_1 industry\_tariffs_t + \beta_2 b\_age_t + \beta_3 race_t + \beta_4 cpi\_n_t + \beta_5 income_t + \beta_6 Edu_t + \varepsilon_t$ ……..…. (3)

where t denotes the time, which is in waves.

Enterprise Model:

$$Rem_t = \alpha_0 + \beta_1 industry\_tariffs_t + \beta_2 Edu_t + \beta_3 race_t + \beta_4 b\_age_t + \beta_5 income_t + \varepsilon_t \quad \ldots\ldots (4)$$

$$Rem_t = \alpha_0 + \beta_1 industry\_tariffs_t + \beta_2 Empl_t + \beta_3 race_t + \beta_4 b\_age_t + \beta_5 income_t + \varepsilon_t \quad \ldots\ldots (5)$$

Government Model:

$$Rem_t = \alpha_0 + \beta_1 industry\_tariffs_t + \beta_2 Edu_t + \beta_3 b\_age_t + \beta_4 grants_t + \beta_5 gend_t + \beta_6\, cpi\_n_t + \varepsilon_t \quad \ldots\ldots (6)$$

Individually, the channels will quantify their different effects on poverty and when added altogether, the result will be the total effect on poverty.

4.3.3 Definition of Variables

Trade-GDP Ratio (trgdp)

The Trade-GDP ratio is a measure of trade openness in a country's economy (Birdsall and Hamoudi, 2002). Although it is termed a ratio, it is expressed as a percentage. An increase in the ratio over time indicates that the policies undertaken by the government foster more openness (Dollar and Kraay, 2001). The variable of interest in this study is trade. It is measured by the ratio of imports and exports to GDP as per Fauzel (2020).

Industry

Within the NIDS dataset, when the participant is employed, the industry in which they are employed in is recorded. Therefore, for the study we used this information to find the industry tariffs of the specific industries of the employed participants. If self-employed, the participant had an industry from which they receive income.

Industry Tariffs (industry_tariffs)

The industry tariffs used are the Most Favoured Nation (MFN) weighted average tariffs. These tariffs are what trading partners promise to impose as the import tariff to goods and services crossing their borders. This is strictly for members who are part of the World Trade Organisation (World Bank, 2010). This is the main variable of trade used to measure trade liberalisation in line with Cui *et al*., (2020).

Terms of Trade (tot)

According to OECD (2021), terms of trade are defined as the ratio between the index of export prices and the index of import prices. This variable was included to support the CPI variable for it includes export and import prices. The variable was also used by Misra and Hazell (1996).

Consumer Price Index (cpi_n)

According to StatsSA (2013), the CPI measures monthly changes in prices for a range of consumer products. Goff and Singh (2014) used the CPI measure for prices when addressing whether trade affects poverty in Africa.

Employment status -Labour Market Participation (Emp)

According to the NIDS adult questionnaire, the labour market participation seeks to find whether the respondent is employed, or unemployed and actively looking to participate in the labour market. Those employed were then asked whether they get a salary or wage for full time or part-time work. If the participant had more than one job, then one was mentioned under the main job and the rest under casual jobs. Self-employment is also considered under the dynamics of labour market participation and was included under this section, for example, perhaps the respondent has a food garden, which may have been commercialised. Therefore, labour market participation shows the employment status of the participant. Employment status is used as it is one of the transmission mechanisms in the McCulloch *et al*., (2001) framework.

Income

Under the labour market participation section, the participants are asked about their average income. The participant is shown the income categories on the show card, and the appropriate code for the respondent's monthly earnings is recorded. Income that may have been received from non-employment sectors, such as grants or as remittances is not considered in this section. Barraud and Calfat (2008) used income in their study for "Poverty Effects from Trade Liberalisation in Argentina".

Gender and Population Group (gend and race)

As seen in the context chapter, poverty primarily affects the population and females in South Africa. The NIDS dataset records the demographics of the participants and this was considered

in the study as race and gender. Gender and population group affect trade-poverty nexus studies as per Kanbur (2006) and Seguino (2020).

Education (Edu)

Level of education is computed by the highest grade completed and whether the participant has any other diplomas, certificates and degrees outside the highest grade completed. This variable is used following Salahuddin *et al*., (2020).

Age (b_age)

The length of life of the participants is included. In South Africa, literature states that the youth is the population most unemployed, and poverty can affect age groups.

Grants

Some participants receive various social grants from the government to sustain them. The grants can include among others, child grants, unemployment fund, pension fund etc. This is a variable important for the government channel (McCulloch *et al.,* 2001).

Remittances (rem)

Settlements which are made to an individual and gifts from other people which may not necessarily be part of their monthly income are included in the remittances variable. Remittances is an important variable in poverty related studies as found by Le Goff (2008), Kalim and Shahbaz (2009) and Anyanwu and Erhijakpor (2010).

Overall, trade-GDP ratio, industry tariffs, employment status, income, gender and population group, education, age, and grants are the independent variables in the study. Remittances is the dependant variable.

4.3.4 Estimation techniques

The methodological tool used to analyse and interpret the data is path analysis as "it allows users to investigate patterns of effect within a system of variables" (Allen, 2017:1193). According to Lleras (2005), it is a statistical technique and an extension of multiple regression analysis used to examine the comparative strength of direct and indirect relationships among variables. Path analysis goes beyond the usual regression analysis in that

it allows the analysis of more complicated models. Also, it provides estimates of the magnitude and significance of effects within a hypothesised causal system. This technique, developed by Sewall Wright, estimates the causal path coefficient through decomposing the correlations of a set of variables. Path analysis is one of several types of general linear models that examine the impact of a set of prediction variables on multiple dependent variables (Lleras, 2005).

The path analysis has two main requirements. Firstly, the technique lays out the causal relationship between the variables and does not prove the direction of causation. Therefore, the causal relationships between the variable must move in one direction only. This means that a pair of variables cannot cause each other. Secondly, the variables in the path analysis need to have a transparent time order since the variables cannot cause each other unless the variables precede each other in time (Streiner, 2005; Bihansky, 2017).

The main reason for the use of this technique for this study is the need to clearly see the causal relationship between the chosen variables.

According to Kline (2011:91-92), steps taken during path analysis are:

- Specification: this is the process of representing a couple of hypotheses either by drawing a model diagram or describing the said hypotheses as a series of equations. The equations will define the model's parameters.
- Identification: the model is then identified; an identified model theoretically allows one to derive a unique estimation.
- Collection, screening and preparation of data
- Evaluation: How well the model explains the data and interprets the parameter estimates
- Re-specification if model is of poor fit
- Reporting results

How Path Analysis Works

A series of regressions are conducted to analyse the influence on dependant variables within the model (Frances *et al.,* 2004). A series of parameters are estimated by solving one or more structural equations to test the goodness of fit of the correlation matrix between two or more causal models hypothesised by the researcher to fit the data (Garson, 2004). The path analysis

follows the assumptions of the ordinary least squares (OLS) regression. Hence, the model has the following assumptions (Currit, 2002):

1. Linearity

It is assumed that all relations within the model are linear and can be summed up. The variables are related in a linear function, and the error terms have a normal distribution around the regression line. The errors are assumed to be random variations in the dependable variable rather than systematic variations, since a systematic variation in the error term shows a non-linear relationship between the independent and dependant variables. If there is a non-linear relationship between the variables, the regression coefficients are biased, and the *t* and *F* tests will be invalid. Therefore, in order for the model to be correctly specified, the linearity assumption should be met.

2. Normal Distribution of the Error Terms

Independent and dependant variables must have a similar distribution. For example, symmetrically distributed X variable cannot have a linear relationship with skewed distribution Y variable (Hamilton, 1992). Fox (2015) explains this reasoning as follows: Firstly, the OLS estimates are not as efficient if the error distribution has heavy trails. Secondly, a skewed error distribution can have an adverse effect on interpreting the goodness of fit. Lastly, the multimodal error distribution may dichotomise the data into groups which will cause non-normality in the error distribution.

3. Uncorrelated residual term

The residual term, also known as the error term, is uncorrelated with the other variables in the model and the other error terms that may be found within the model. Therefore, the residual terms are independent. The Durbin-Watson test can be used to determine if the model has correlated terms (Zdaniuk, 2014).

4. Conditional mean should be zero

The expected value of the mean for the error terms should always be zero. The distribution of error terms should be zero, and it does not depend on the independent variable. Therefore, there is no relationship between the independent variable and the error terms.

5. Multicollinearity

The presence of multicollinearity in the regression causes values of the least-squares estimators to be unstable (Fox, 2015). This will lead to the establishment of unique effects of the independent variables on the dependent variables, difficult when present (Weisburd & Britt, 2014). Also, when the independent and dependent variables are highly correlated, it will lead to high inflation of standard errors of the coefficient.

6. Homoscedasticity

Homoscedasticity assumes that there is constant residual variance that is the same across all the dependent variables. When violated, the regression deals with heteroscedasticity, which is problematic as it lessens the efficiency of the least-squares estimator, leading to a miscalculation of the coefficient standard errors.

After running the path analysis, descriptive statistics will be discussed.

Elements of Path Models

Within the path models, different elements can be found, namely the path diagram, exogenous and endogenous variables, residual error, path coefficient and structural equations.

The path diagram represents the hypothesised causal model in the path analysis. There is usually one arrow depicting a causal relationship leading from the explanatory (causal) variable to the outcome variable (effect). The correlation of any two variables in the path diagram can be expressed as the sum of coefficients that connect the two variables. The connection of the two variables can often be made through more than one route. The arrows in the diagram are either straight with one headed arrow or curved with two-headed arrows. The straight arrow illustrates causality between two variables, whereas the curved arrow illustrates a simple correlation between them. An example of a path diagram is depicted in Figure 9, where A, B, C and X represent variables. A, B and X are assumed to have causal effects on C, while A and B are correlated. On the other hand, variable X is assumed to affect variable C but has no relationship with A and B.

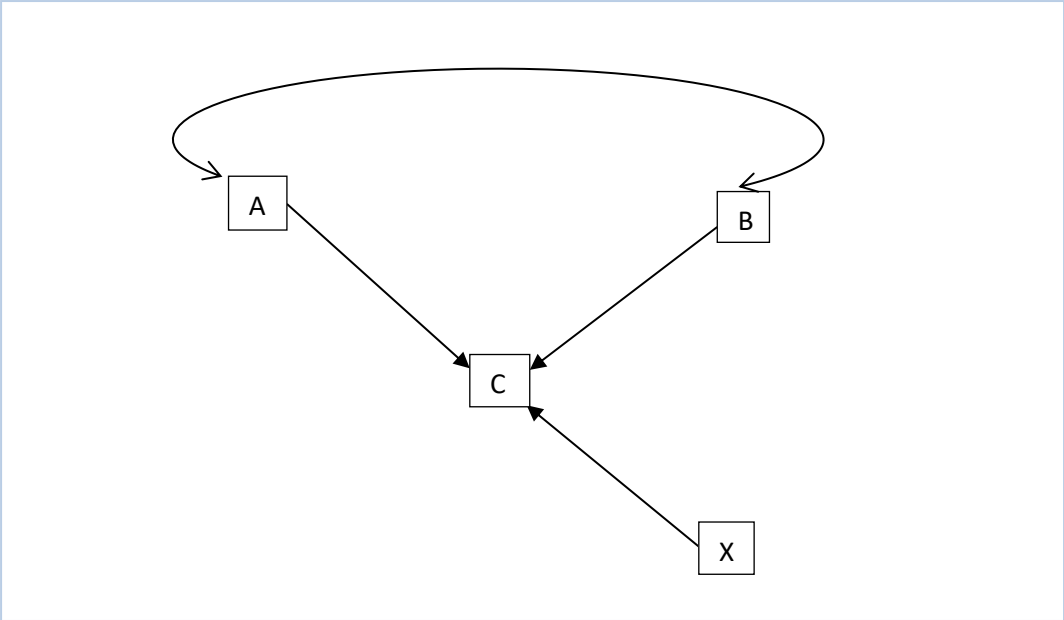

Figure 4. 1 Illustration of a simple path analysis

The models also include exogenous and endogenous variables. The value is determined outside of the model in the former, whereas in the latter, the value is determined within the model. Using Figure 4.1, variables A, B and X are the exogenous variables, and C is the endogenous variable. According to Loehlin (2004), the endogenous variable is not connected by the curved arrow at any given time.

Another element found within the path models are error terms. The error terms are usually denoted by an *e.* Error terms are exogenous and independent variables that are not directly measured, and they reflect unspecified causes of variability. In the simple example in Figure 4.1, X can be seen as an error term.

In the models, there are path coefficients. Path coefficients indicate the direct effect of a variable, assumed to be a cause, on a variable that is assumed to be the effect. The coefficients are estimated from correlations. Although not required, the model will compute "standardised regression coefficients" or "estimated path coefficients" that have been converted into standardised z-scores for each causal path depicted in the model. The standardised path coefficients measure the relative strength and sign of the effect from a causal variable to an outcome variable in the model, thereby allowing the comparison of the relative magnitude of the effects of different explanatory variables in the path model (Lleras, 2005).

Lastly, structural equations specify the model as the equations describe the direct causal relationships between variables.

The path analysis is unique to social science research because it can decompose the association between several variables into causal (direct and indirect) and non-causal components.

Path Analysis Strengths

Firstly, path analysis can estimate a system of equations that specify all the possible causal linkages among the set of variables. It looks into more complex systems than the multiple regression model. Secondly, it enables researchers to break down correlations between variables into causal or non-causal components, which helps the researcher extract the complex interrelationships between the variables and recognise the extraordinary pathways involved in predicting the outcome (Stage *et al*., 2004). Thirdly, path analysis encourages the researcher to develop detailed and logical theoretical models to explain the outcome of interest at the hypothesis stage. The path analysis technique requires explicit specification of the relationship between the variables within the path diagram. Lastly, researchers using quantitative data in social science research can test if their hypotheses about the relationship between the variables are probable, supported by the data, and ultimately represent underlying causal processes (Lleras, 2004).

Path Analysis Limitations

However, the path analysis technique has its limitations. Since the path analysis follows the regression assumptions, it is often challenging to meet some of the regression assumptions such as reliability and recursivity or the unidirectional causal flow (Lleras, 2005). Therefore, the path assumes that each variable is an exact manifestation of the theoretical concepts underlying them and reasonably free of measurement error. Also, there cannot be feedback loops for causality in the hypothesised model has to flow in one direction, or else the model will not be solved using the OLS techniques. Lastly, path analysis evaluates correlations between the given data. It does not demonstrate causality; it demonstrates only whether the correlations within the given database reflect the causal hypothesis specified within the model (Lleras, 2005).

The path analysis is suitable for this study as it specifies all the possible causal linkages among the set of variables in our dataset. Also, it will help to break down correlations between the variables into causal or non-causal components, which will help to extract the complex

interrelationships between the variables and recognise the extraordinary pathways involved in predicting the outcome of poverty reduction driven by trade liberalisation. This has not been done in such studies therefore filling another gap in the literature. After running the path analysis, the results will be communicated in the following chapter. This includes the descriptive statistics, the diagnostic tests and the path coefficients found.

4.4 Conclusion

This chapter described the research design, methodology and data. The chapter explained the research paradigm that was followed, which is the positivism research paradigm. As the positivism paradigm encourages, the research then followed a quantitative approach, using the path analysis technique. The chapter further elaborated on what path analysis is, its strengths and weakness, and how the technique is employed. Data and the data sources were elaborated on, explaining the approach used to select and use the data, as well as defining the variables selected for the study. The models were also specified. This leads to the following chapter, where the results will be analysed and discussed.

CHAPTER 5 PRESENTATION AND DISCUSSION OF RESULTS

5.1 Introduction

This chapter aims to interpret and discuss the results that were found after running the path analysis on the statistical software STATA. The study aimed to investigate the transmission mechanism and the associated challenges between trade and poverty. The sub-goals for the study included analysing the stylised facts around trade and poverty in South Africa, mapping out the transmission mechanisms from trade to poverty alleviation in South Africa, and identifying possible challenges to the transmission mechanism from international trade to poverty alleviation. The hypothesis that was tested was whether

H_0: Trade liberalisation has no effect on poverty.

H_1: Trade liberalisation has an effect on poverty.

The chapter proceeds as follows; section 5.2 discusses the descriptive statistics whilst section 5.3 gives the path analysis results and the discussion. Section 5.4 will discuss the diagnostic tests, section 5.5 will conclude the chapter.

5.2 Descriptive Statistics

The descriptive statistics for the poverty and trade variables used in this study are presented below. In table 5.1, the variables remittances, income, grants and industry tariffs are computed, indicating the variable's mean, standard deviation, minimum value and maximum value.

The mean of remittances variable has increased since 2008, from R818.12 to R1263.25 in 2017. However, the highest mean was 2011 which was R2152.56. The maximum value of remittances was on 2008 at R13000 and the minimum was R1. Standard deviation recorded was highest in 2008 and lowest in 2015.

Industry tariffs variable mean has increased since 2008 from 7.22 to 7.37 in 2017. The highest mean was in 2015 at 8.01. The maximum for industry tariff variable was 15.3 in all five waves and the minimum was 0. The standard deviation for the variable was lowest in 2017 at 4.14.

Table 5. 1 Summary Statistics for Remittances, Industry Tariffs, Income and Grants.

Mean						
	Year	**2008**	**2011**	**2012**	**2015**	**2017**
Remittances		818.115	2152.563	1302.168	1159.05	1263.253
Industry Tariff		7.215892	4.419141	7.977398	8.011462	7.374071
Income		2739.168	1612.785	2626.69	2678.895	2713.974
Grants		495.1527	328.3083	498.1134	497.6796	499.7095
Std Dev						
	Year	**2008**	**2011**	**2012**	**2015**	**2017**
Remittances		4727.017	2152.563	3329.08	1575.091	1577.438
Industry Tariff		4.282632	4.419141	4.378829	4.50865	4.14535
Income		1701.3	1612.785	1601.759	1531.623	1495.457
Grants		323.9533	328.3083	328.3853	328.2754	327.0253
Min						
	Year	**2008**	**2011**	**2012**	**2015**	**2017**
Remittances		1	1	3	1	1
Industry Tariff		0	0	0	0	0
Income		3	1612.785	1	1	2
Grants		2	328.3083	1	5	4
Max						
	Year	**2008**	**2011**	**2012**	**2015**	**2017**
Remittances		130000	28000	70000	26000	30000
Industry Tariff		15.2	15.2	15.2	15.2	15.2
Income		5601	5605	5603	5591	5597
Grants		1070	1071	1069	1069	1072

Source: NIDS wave 1 to 5 merged by the author, table generated on Stata.

Mean income was lowest in 2011 at R1612.79. Compared to the mean if R2739.17 in 2008, the mean of income had decreased by 2017 to R2713.97. The standard deviation for income was lowest in 2017 at R1495.45. Maximum income was R5601 in 2008 and minimum was R1 in 20120and 2015.

Grants have increased over the period as the mean was R495.25 in 2008 and is R499.71 in 2017. The lowest mean for grants was R328.31 in 2011. The maximum value of grants was R1072 in 2017 and minimum was R1 in 2012.

Table 5. 2 Summary Statistics for Age Variable.

		Age				
	2008	**2011**	**2012**	**2015**	**2017**	
Observed	50,989,144	50,769,706	51,090,716	51,166,895	51,217,681	
Mean	24.79333	27.23382	29.09337	31.66707	33.91222	
Standard Deviation	18.92683	18.91473	18.89713	18.90697	18.9065	
Min	0	1	3	6	8	
Max	101	104	105	108	111	
Entire Dataset	**Observed**	**Mean**	**Std. Dev.**	**Min**		**Max**
	255,234,142	29.34739	19.18095		0	111

Source: NIDS wave 1 to 5 merged by the author, table generated on Stata.

Table 5.2 shows the summary of the age variable. The mean age ranges from 24 years old to 33 years old for the 2008 to 2017 period. The mean age of the total dataset and not considering the waves, is 29 years old. Generally, the population simple is youthful.

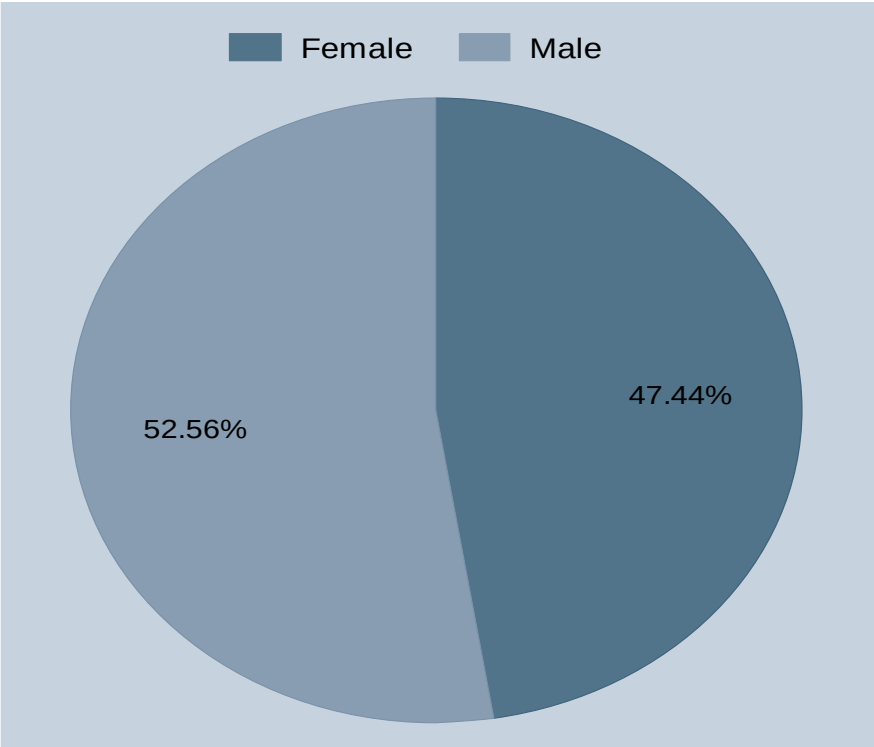

Figure 5. 1 Pie chart depicting which gender receives more income than the other.
Source: NIDS wave 1 to 5 merged by the author, pie chart generated on Stata.

Figure 5.1 is a pie chart generated on STATA comparing income based on the population's gender. As seen above, the participants who indicated they had an income per month, 52.56% are male and 47.44% are female. This depicts that the population sample in the NIDS data is primarily the males who receive income.

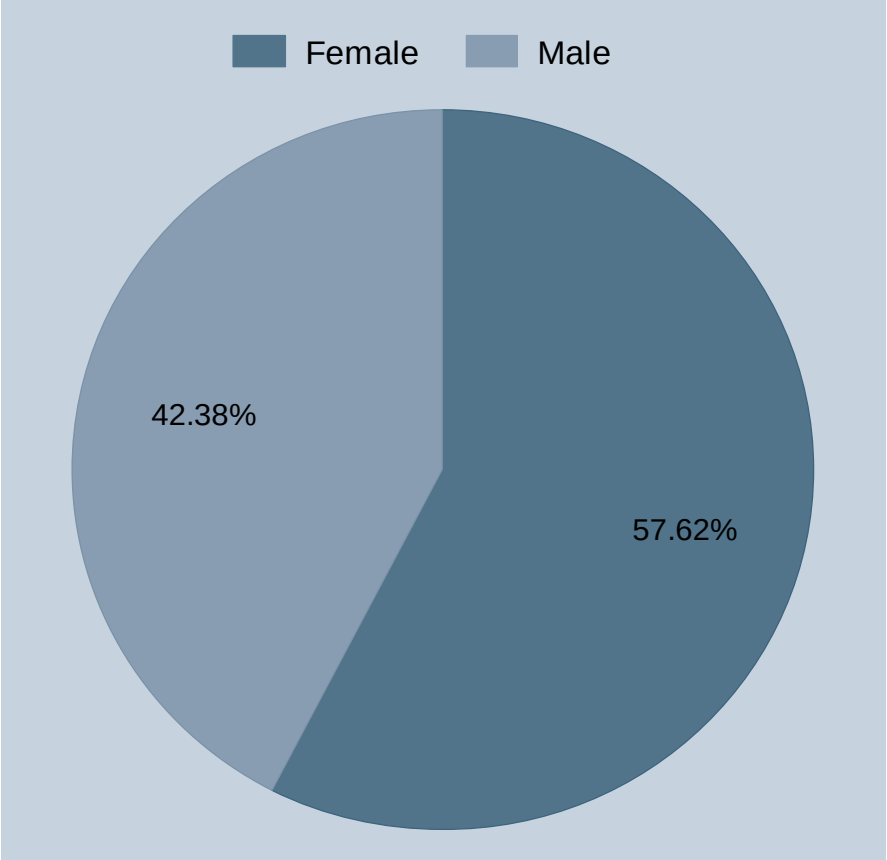

Figure 5. 2 Pie chart depicting which gender receives more grants relative to the other.
Source: NIDS wave 1 to 5 merged by the author, pie chart generated on Stata.

Figure 5.2 compares grants by gender, where of the population sample receiving grants 57.62% are female and 42.38%. Further depicting that males depend on a monthly income, whereas females depend on the grants paid by the government. This may show that the marginalised are predominantly female.

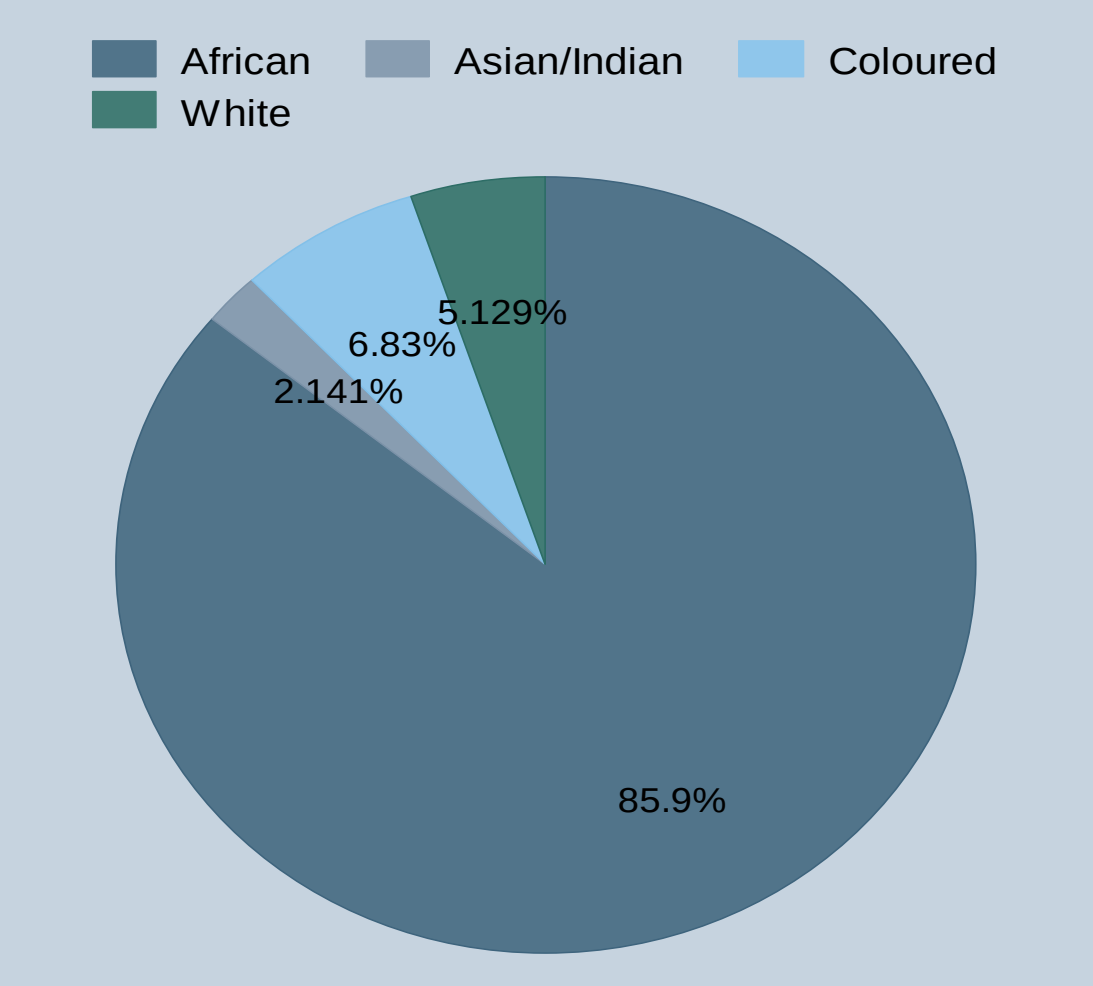

Figure 5. 3 Pie chart depicting which racial group receives more grants relative to the other.

Source: NIDS wave 1 to 5 merged by the author, pie chart generated on Stata.

Figure 5.3 reports the grants received categorised by race. 85.9% of those receiving grants in the NIDS dataset used are Africans. The Asian/Indian respondents receive the least amount of grants at 2.14 % and the white and coloured population groups received 5.13% and 6.83% of the total grants in the data.

The following tables show the frequency, percentage and cumulation of the gender, race, education and employment variables. Table 5.3 reports that approximately 54% of the population sample is female whilst 45.96% is male, with a total of one hundred and twenty-six, nine hundred and ninety-eight respondence having provided their gender, which is a close representation of the proportions of the population. Table 5.4 depicts the racial groups of the

respondents, with 78% being African, 1.59% being Asian/Indian, 14.85% Coloured, and 5.22% being White.

Table 5. 3 Summary statistics of gender variable.

Gender	Frequency	Percent	Cum
Female	68 631	54,04	54,04
Male	58 367	45,96	100
Total	126 998	100	

Source: NIDS wave 1 to 5 merged by the author, table generated on Stata.

Table 5. 4 Summary statistics of the race variable.

Race	Frequency	Percent	Cum
African	99 483	78,33	78,33
Asian/Indian	2 022	1,59	79,93
Coloured	18 858	14,85	94,78
White	6 635	5,22	100
Total	126 998	100	

Source: NIDS wave 1 to 5 merged by the author, table generated on Stata.

Table 5.5 portrays the highest level of education the participants have. The majority, 34.31% of the people, had their highest education qualification at the primary school level. Most of the participants in the population sample stopped school at grade seven (7). 30.49% had their highest qualification at the high school level (grade eleven), whereas 2.27% had a certificate or diploma without grade 12. Only 12.11% finished their matric whilst 0.20% finished matric and attained a certificate or diploma. 12.02% had no schooling whilst 6.14% recorded "do not know". Less than 2% had earned a university degree, whether Bachelor's, Honours, Masters, PhD combined, and only 0.29% had attained National Vocational Training Certificate.

Lastly, most respondents (46.77%) were not economically active. StatsSA (1999) defines not economically active as people in the age category of 15 to 65 who are unavailable for work, including full-time scholars and students, full-time homemakers, retired, and those who are unable or unwilling to work. Only 37.52% were employed, whilst approximately 7% were strictly unemployed, 6.31% just unemployed, and 1.49% unemployed and discouraged. Of the

total dataset, only seventy-seven thousand, three hundred and eighty-two responded to the labour participation section.

Table 5. 5 Summary statistics of the education variable.

Education	Frequency	Percent	Cum
Bachelor Degree	1 634	1,29	1,29
Certificate/Diploma no grade 12	2 889	2,27	3,56
Do not know	7 792	6,14	9,7
Certificate/Diploma with grade 12	250	0,2	9,89
Primary School	43 579	34,31	44,21
High School	38 724	30,49	74,7
Matric	15 383	12,11	86,81
Masters and PhD	311	0,24	87,06
Honours	534	0,42	87,48
National Vocational Training	369	0,29	87,77
No Schooling	15 262	12,02	99,79
Other	271	0,21	100
Total	126 998	100	

Source: NIDS wave 1 to 5 merged by the author, table generated on Stata.

Table 5. 6 Summary statistics of the employment variable.

Employment	Frequency	Percent	Cum
Employed	29 030	37,52	37,52
Not Economically Active	36 191	46,77	84,28
Refused	203	0,26	84,55
Unemployed	4881	6,31	90,85
Unemployed_Discouraged	1 513	1,49	92,34
Strictly Unemployed	5 924	7,66	100
Total	77 382	100	

Source: NIDS wave 1 to 5 merged by the author, table generated on Stata.

The descriptive statistics suggest that the main characteristics of the poor include a particular gender, ethnic group, age, employment status and level of education. According to StatsSA (2021), 46% of the youth (ages 15-35) are unemployed. The population sample had a mean age of 29 years old from the descriptive statistics. This shows that the population is youthful, whilst 46.77% of the sample is unemployed. Therefore, we conclude that the youth make up the most unemployed. The data is consistent with the empirical evidence and the South African statistics.

As seen in chapter 3, the African ethnic group is disadvantaged due to historical reasons. Approximately 78% of the population sample is of the African ethnic group, which receives most of the grants, as depicted by figure 5.4. The population sample had a mean income of R4710.97. This is above the lower-bound poverty line for South Africa, which is R890 per month and the upper-bound poverty line, which is R1335 per month. (Winters, 2021). According to figure 5.2, the male population received most of the income recorded in the dataset. According to StatsSA (2021), the South African labour market is more favourable to males than females. This could be why our data had more male participants earning income than the female participants regardless that 54.04% of the population sample was female.

5.3 Path Analysis Results and Discussion

The path analysis technique was used to map out the transmission mechanism of trade liberalisation to poverty in South Africa. The path diagrams in this section present unstandardised estimates, and the significant tests were done on the unstandardised parameters. The parameters were estimated on STATA release 14, under the SEM estimation technique. The coefficients obtained are presented in this section under the different path diagrams. The path coefficients are the numbers shown along with the arrows. The estimated mean is shown on the top right corner, whilst the variance is on the bottom right corner.

According to the three channels by McCulloch *et al*. (2001), distribution, enterprise, and government, the path diagrams are in three categories. The path results presented went through the six-step process by Kline (2011). Paying particular attention to step five, which states that models should be re-specified until there is acceptable goodness of fit. Therefore, the path diagrams and regression results presented had the best goodness of fit. The statistical table outputs are shown in the Appendices from Appendix D to H.

Distribution Channel

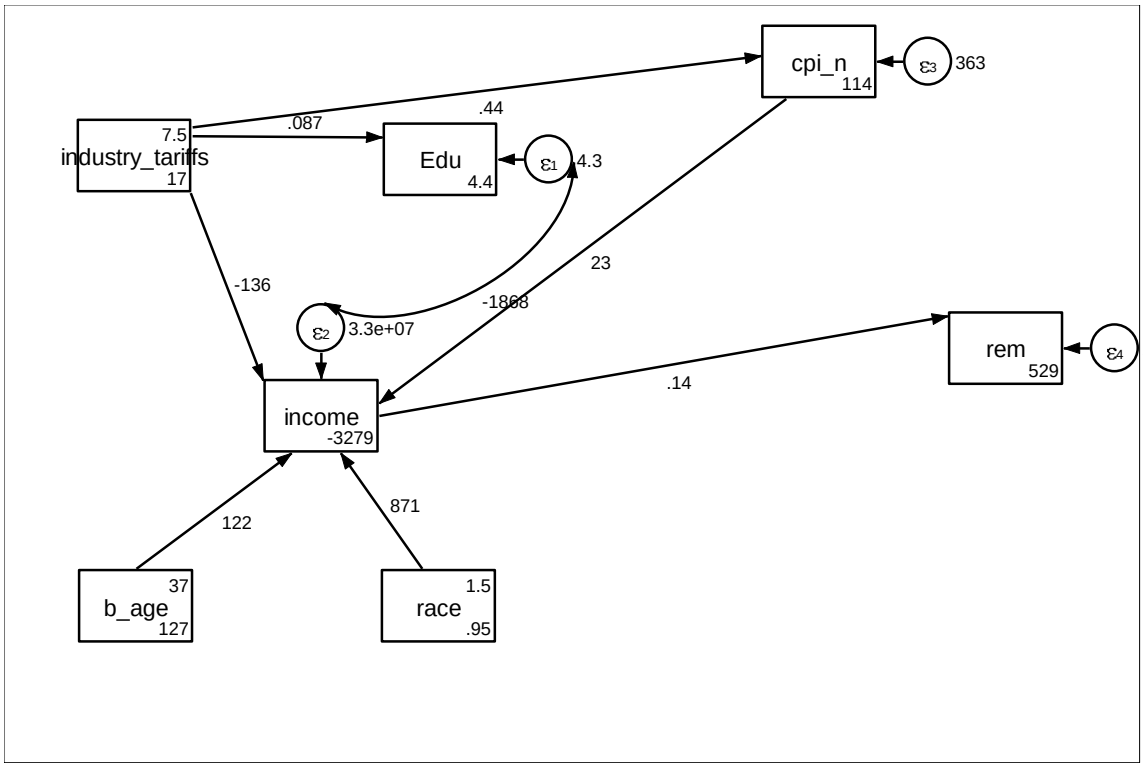

Figure 5. 4 Distribution Path 1

Figure 5.4 shows the first distribution path diagram modelled. According to McCulloch *et al.* (2001), the distribution channel is through the price transmission, meaning that trade policy changes will induce a change in prices leading to an effect on households. This was depicted by the path from industry tariffs to CPI to income and remittances. However, other variables were introduced to the path to incorporate more poverty variables such as education, age and race. These variables affected income whilst income affected remittances overall.

The results showed that with an increase in the industry tariffs of one unit, the CPI increased by 0.44 % *cet par*, whilst the level of education of the population sample increased by 0.087 % *cet par*. However, a unit increase of industry tariffs had a negative impact on income as income will decrease by R136 *cet par*. Nevertheless, a one percent increase in CPI caused a R23 rise in income. With age, the older the population sample, income increased by R122 whilst race estimated an increase of R871 all things held constant. Overall there was an increase in remittances by R0.14 all other variables held constant.

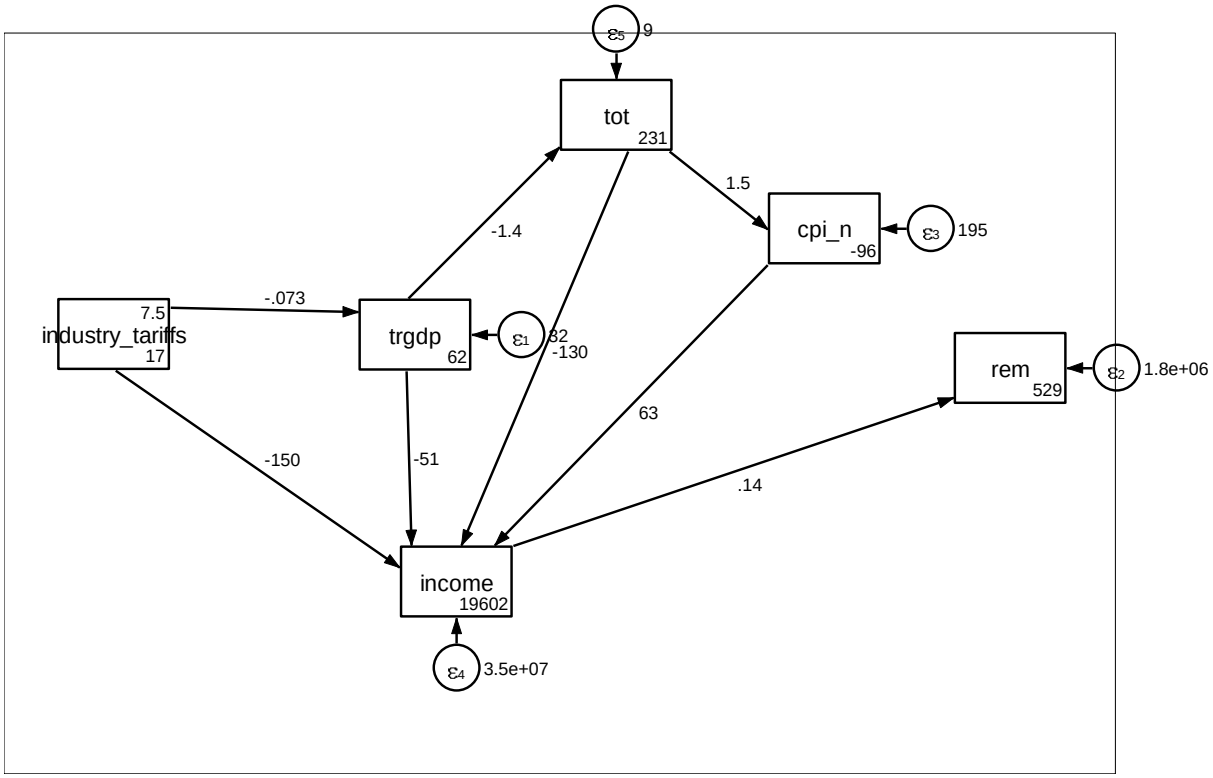

Figure 5. 5 Distribution Path 2

Figure 5.5 above shows the second distribution path diagram. In this diagram, the variables used were industry tariffs, trade-GDP ratio, terms of trade, CPI, with income and remittances being the poverty variables. Distribution channel path 2 had two direct paths: industry tariffs to trade-GDP to terms of trade, which affected income and remittances. The second path led from industry tariffs top trade-GDP to terms of trade, then CPI to income and remittances.

The results showed that with one unit increase in the industry tariffs, the trade-GDP ratio decreased by 0.073 %, whilst an increase in the trade-GDP ratio by one percent decreased terms of trade by 1.4 % and income by R51 all other variables held constant. The effect of a one percent increase in terms of trade on CPI was an increase of 1.5 %, with CPI increasing income by R63. An increase in tariffs by one unit decreased income by R150, with terms of trade decreasing income by R130 for every one-unit increase. With all these effects on income, income increased remittances by R0.14 all other variables held constant. All values on the distribution paths were statistically significant with a p-value of 0.000.

For the distribution channel, in path model 1, there was a direct relationship between CPI and income. For every one-unit increase in CPI, income increased by approximately R22.62. According to theory, when CPI increases, income and wages need to increase for the income

earners to afford the goods and services in the consumer's basket. However, this would only be possible for the income earners. The unemployed population sample will be forced to cut down on their consumption when there is an increase in CPI. This will push the unemployed into poverty. The results showed an increase in tariffs led to a 0.44 % increase in CPI. Therefore, an increase in tariffs increased CPI, where CPI will compel employers to raise wages. Those without a job or an income will then be pushed into poverty, for they will not be able to afford the goods they will need to consume. Overall, the distribution channel is statistically significant as prices lead to the poor households either being pushed further into poverty or relatively can get out of poverty. There was a positive outcome in the model where the distribution channel increased remittances. In essence, trade liberalisation through the distribution channel reduced poverty by a small effect.

Enterprise Channel

According to McCulloch *et al*., (2001), the enterprise channel is when trade effects are through wages and employment. Figure 16below shows the first path diagram of the enterprise channel. The proposed direct effect was the path from industry tariffs to income and ending at remittances. Other paths included industry tariffs to education to remittances. Income was affected by other poverty variables, race and age. There was a correlation between the error terms e_1 and e_3.

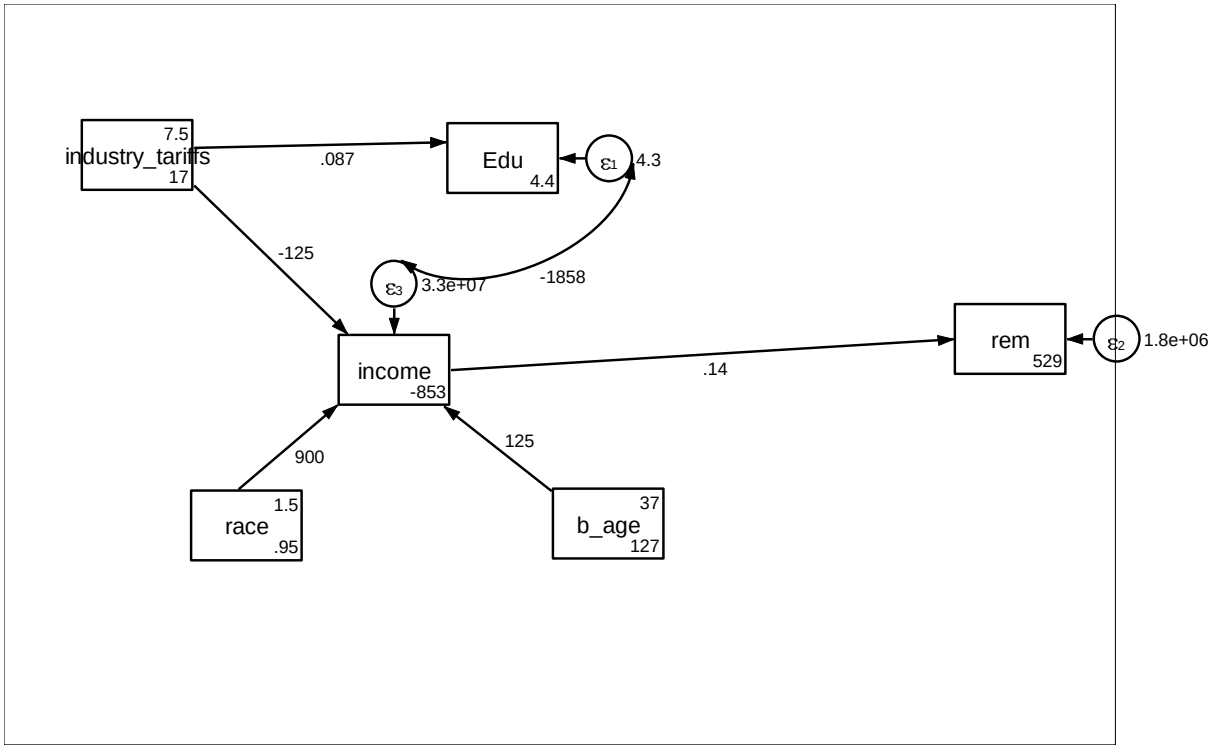

Figure 5. 6 Enterprise Path 1

The results for the first enterprise channel (figure5.6) were as follows. Industry tariffs had a positive impact on education. One unit increase in industry tariffs caused a 0.087 % increase in education *cet par*. However, the effect was negative on income as the one unit increase decreased income by R125 *cet par*. Age and race had a positive impact on the income by R125 and R900, respectively. Overall, remittances increased by R0.14 all other variables held constant.

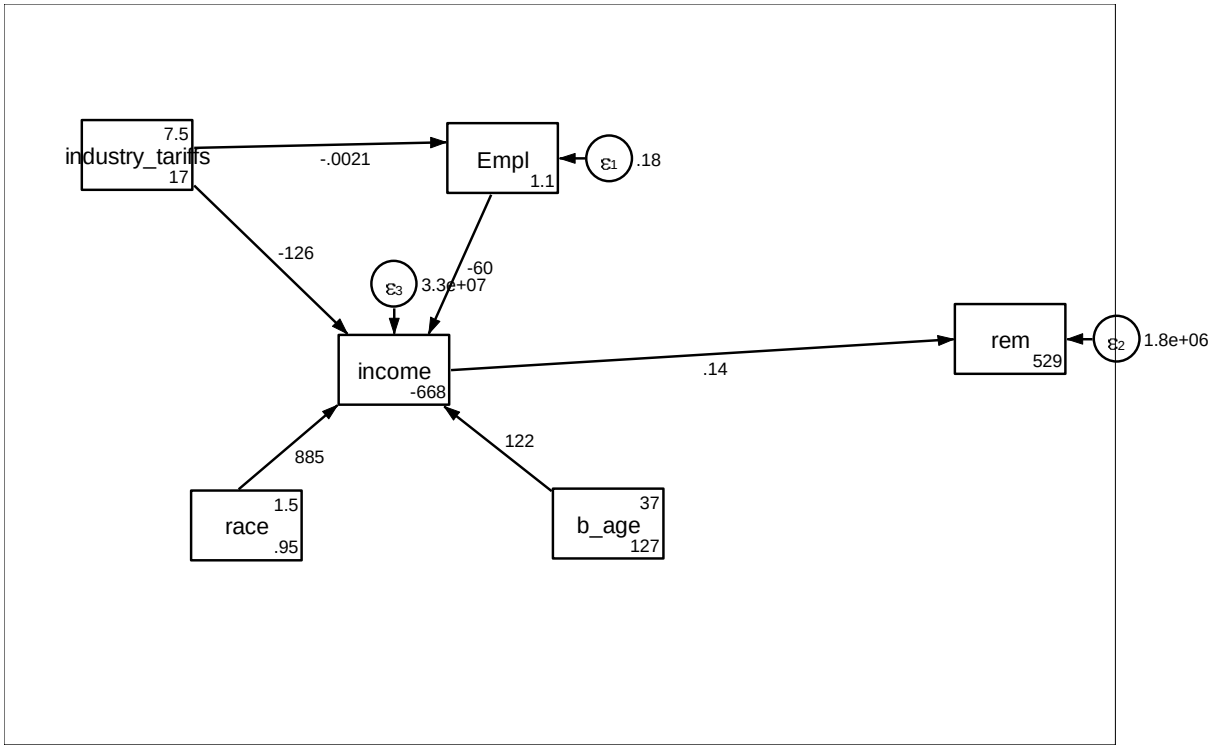

Figure 5. 7 Enterprise Path 2

Figure 5.7 above shows enterprise channel path diagram 2. In this diagram, the direct path went from industry tariffs to employment to income and finally to remittances. The other poverty variables included were race and age.

In this path, industry tariffs decreased employment by 0.021 % and had a negative impact on the income of R126 *cet par*. Employment had a negative effect of R60 on income whilst age and race had a positive effect of R885 and R122, respectively *cet par*. Overall, there was a positive effect on remittances of R0.14; all other variables held constant.

The first path model for the enterprise channel exhibited that a one-unit increase in industry tariffs caused a negative effect on income. In theory, tariffs increase wages and income if the imports favour labour-intensive sectors. Therefore, the results show that the imports did not favour labour-intensive sectors, but the capital-intensive sectors for increased industry tariffs decreased income by approximately R125.26. As described above, one unit increase in tariffs increased education, further supporting that the highly skilled (capital-intensive) sectors benefitted from higher industry tariffs. Since the low skilled are employed in the labour-intensive importing industry, they were likely to experience a decrease in their monthly income. However, income was also affected by race and age. In South Africa, some ethnic groups earn more than others. If those in the population sample belonged to a particular ethnic group that

makes more than the other, they earned approximately R900 more. With age, the older the population sample became by one year, they earned approximately R124.98. The second path of the enterprise channel's results showed that a one-unit increase in industry tariffs decreased the level of employment by 0.02 %. Whilst an increase in the level of employment decreased income by approximately R60.46. Protecting industries will reduce employment because they are not reaping the benefits of trade liberalisation, such as realising cheaper production by domestic firms.

Overall, there was a positive effect on remittances meaning that trade liberalisation through the enterprise channel positively affects poverty and will reduce poverty over time. However, not negate that most of the population sample is unemployed and may not have a monthly income. Also, women were most of the population sample, yet they received grants more than monthly income than their male counterparts.

Government Channel

The third and last channel is when the trade effects are translated to households through government spending, i.e., the government's transfers to the poor and tax revenue. Figure 5.8 below shows a direct path from industry tariffs to grants which later affect remittances. Education, age, and CPI will affect the poor's grants, affecting the remittances. Gender will directly affect remittances and the level of education, as depicted by the path diagram below.

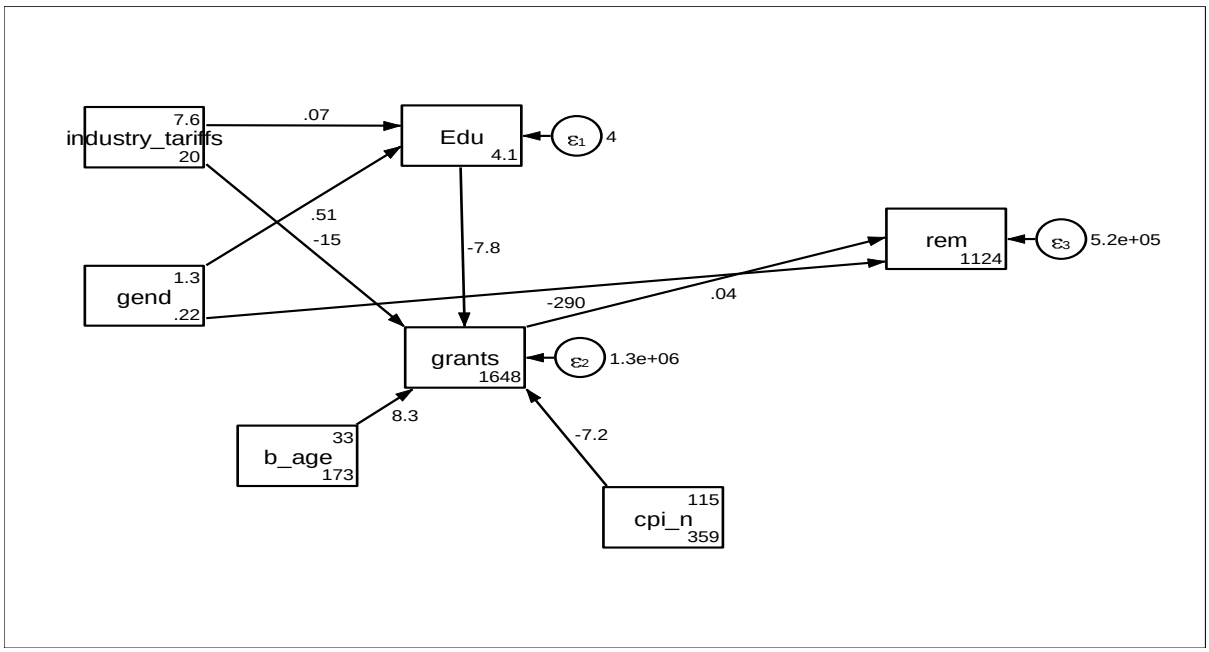

Figure 5. 8 Enterprise Path 2

The results for the government channel had industry tariffs increase the level of education by 0.7 % for every one-unit increase whilst decreasing grants by R15 *cet par*. Getting one-year older increased grants by R8.30 and for every one percent increase in CPI decreased grants by R7.20 *cet par*. Depending on the person's gender, the level of education increased by 0.51 %, whilst it decreased the remittances by R290 *cet par*. All other variables held constant; remittances overall were increased by every R1 increase in grants by R0.04.

Lastly, the government channel was not statistically significant. According to Edwards and Stern (2006), trade taxes are a substantial part of government revenue in most developing countries. The impact of trade liberalisation on government spending on social expenditure is an important consideration. However, this not being the case with South Africa. In this study, the conclusions are consistent with Edwards and Stern (2006) in that the government channel is not statistically significant in the results. Trade liberalisation does not affect the social expenditure of the South African government.

In all three models, distribution, enterprise and government, there was a direct effect of industry tariffs on the level of education. Those with high levels of education (university level) made up less than 2 % of the population sample. This shows that the industries that have high skilled workers have higher tariff levels and are more protected compared to the lower-skilled workers. Therefore, the higher the skills, the higher the level of protection in the industry and the lower the skill, the lower the protection in the industry. This is in line with the literature and empirical evidence as the more liberalised industries are those of the low-skilled workers (Erten *et al.,* 2019; Vo and Nguyen, 2021). This means that industries with low skilled workers are exposed to high levels of competition, which may adversely affect the poor household as they are the low skilled labour force. Industry tariffs seemed to have a negative effect on income in the distribution channel and the enterprise paths. The more protected the industry, there was a decrease in income. If an increase in tariffs leads to an improvement to the terms of trade with the export price to import price ratio increasing, the tariff will make income distribution more equitable will claim the Stopler-Samuelson theorem false (Khan *et al*., 2021). However, all things constant, the Stolper-Samuelson theorem is proven true as the income seemingly decreases in the path models as the tariffs decrease income and terms of trade did not improve. With the enterprise path 2 results, an increase in tariffs caused a negative impact on employment, however this is does not align with literature and empirical evidence as when tariffs decrease and more competition enters the industry, that is when employment decreases (Ali *et al.,* 2018).

The results in the path analysis suggest that industry tariffs increase all things held constant will decrease income, and employment whilst protection in high skilled industries increases. This shows that the low skilled and poorer household are left vulnerable and will need to be protected from the shocks of trade liberalisation. However, South Africa has liberalised the low-skilled industries, this could explain Appendix A where the imports of low-skill and technology-intensive manufactures increased from 5160833,404 in 2006 to 6228235,312 in 2020 – even though in 2020 imports were their lowest since 2011. The industries faced a heavy competition thereafter, causing the decrease seen in exports, possibly explaining the unemployment among the low-skilled labourers. Again, with imports and exports decreasing and competitiveness in some sectors decreasing, there will be a possibility of consumption prices to rise which will adversely hurt the poor. Both employment and consumption are important channels for which trade influence the poor. These main results are in line with Stern and Ramkolowan (2021)'s findings.

5.4 Diagnostic Tests

This section evaluates how the models explain the data and interpret the parameter estimates. For this, different type of fit statistics is used to assess the goodness of fit of the hypothesised models. According to Schumacker and Lomax (2010), the types of model-fit criteria for any structural equation model (SEM) analysis include, chi-squared test, Tucker-Lewis Index (TLI), Standardised Root Mean Square Residual (SRMR), Root Mean Square Error of Approximation (RMSEA) and the Comparative Fit Index (CFI). Each of these has its fit statistics, and evaluating all five may give a holistic approach.

Chi-Squared Test

The chi-square test compares the chi-squared value with the tabled value for the given degrees of freedom (Schumacker and Lomax, 2010). The model is a good fit when the statistically significant value of the p-value is greater than or equal to 0.05. If less, it indicates that the model is a bad fit. The test is also sensitive to sample size and the non-normal variable distributions.

Tucker-Lewis Index (TLI)

The TLI is in the group of comparative fit indexes. The index will compare the focal model to the baseline model. It is less sensitive to sample size, unlike the chi-square test. A TLI value

greater than or equal to 0.95 indicates a good fit though some econometrists relax the statistic to 0.90.

Standardised Root Mean Square Residual (SRMR)

Unlike the TLI, SRMR is an absolute fit index. A value less than or equal to 0.085 indicates an absolute good fit for the data.

Root Mean Square Error of Approximation (RMSEA)

The RMSEA is also part of the absolute fit index category. This index, however, penalises model complexity. The values tend to be upwardly biased when there are fewer degrees of freedom. A value less than or equal to 0.08 indicates a good fit for the data.

Comparative Fit Index (CFI)

Lastly, the CFI, as the name suggests, compares the focal model to a baseline model. It is less sensitive to sample size, just like TLI, and similar to the TLI as it also reports that a value greater than or equal to 0.90 indicates a good fit to the data. Table 5.7 indicates the hypotheses tested and the result of good fit.

Table 5. 7 Model-Fit Criteria

Path Models	**Chi-Square**	**CFI**	**TLI**	**RMSEA**	**SRMR**
	p>=0,05	CFI>=0,90	TLI>=0,95	RMSEA<=0,08	SRMR<=0,08
Distribution Path 1	Robust Std Errors	Robust Std Errors	Robust Std Errors	Robust Std Errors	0,032
Distribution Path 2	Robust Std Errors	Robust Std Errors	Robust Std Errors	Robust Std Errors	0,031
Enterprise Path 1	Robust Std Errors	Robust Std Errors	Robust Std Errors	Robust Std Errors	0,031
Enterprise Path 2	Robust Std Errors	Robust Std Errors	Robust Std Errors	Robust Std Errors	0,035
Government Path	0,011	0,594	0,13	0,046	0,094

Table 5.7 indicate that the distribution and the enterprise path models were significant using the SRMR. The rest of the model-fit criteria were not applicable because the models used robust standard errors. Robust standard errors were used because the assumption of uniformity of variance was violated for the models. Therefore, the distribution path model was of good fit using the SRMR, which had the value of 0.032 for path 1 and 0.031 for path 2. For enterprise, path 1 had a value of 0.31 and path 2 had a value of 0.035. The government channel was a good fit using the CFI = 0.594, TLI = 0.13 and RMSEA = 0.046. However, it was statistically insignificant for the chi-squared statistic, and the SRMR value was greater than 0.08 at 0.094. Overall, the model was a good fit.

5.5 Conclusion

This chapter presented and described the results and elaborated on the research findings. The chapter discussed the descriptive statistics where their key statistics were presented and discussed using tables and pie charts, all generated from STATA. The path analysis estimation results were interpreted under section 5.3, where the three channels path models were discussed. Diagnostic tests showed that the models were a good fit for the data and hence the models were well specified and identified. In the discussion section, it was found that the distribution channel and the enterprise channel were statistically significant and sufficiently showed the transmission of trade liberalisation to poverty. However, the government channel was not statistically significant because the South African government does not depend on tariff revenue to fund the social expenditure.

In conclusion, the null hypothesis is rejected, trade liberalisation does affect poverty. The effects on poverty are positive, possibly in the long run with trade liberalisation reducing poverty however in a small margin. This can be supported by the findings of Winters *et al*., (2004) whereby the authors state that in the long run trade liberalisation is highly likely to be poverty alleviating, however, there is no convincing evidence that it will generally increase overall poverty or vulnerability. Those who are still in poverty and vulnerable may the losers in the equation whilst other poorer households are the winners. Kis-Katos and Sparrow (2015) find that the effects of trade liberalisation on poverty were positive. Their results suggest that

input trade liberalization has contributed partially to poverty reduction in Indonesia by increasing incomes of the poorest segment of the population.

The following chapter will conclude the study by discussing the key findings, associated challenges in the trade and poverty nexus in South Africa, recommendations and future research.

CHAPTER 6 CONCLUSION AND RECOMMENDATIONS

6.1 Summary

This thesis attempted to investigate the transmission mechanism and associated challenges between trade and poverty in South Africa. The investigation was based on the McCulloch *et al*., (2001) theoretical framework. The framework investigates trade and poverty issues matters using three channels. It focuses on the product market, labour market and government expenditure. According to McCulloch *et al*., (2001), in the product market the distribution channel investigates trade liberalisation effects on poverty through the price transmission. The enterprise channel is associated with the labour market where trade affects poverty via employment and wages. Lastly, government expenditure focuses on the effect trade has on poverty through government spending and taxes.

To support the research's main goal, three sub-goals were generated;

- Analysing the stylised facts around trade and poverty in South Africa
- Mapping the transmission mechanisms from trade liberalisation to poverty alleviation in South Africa.
- Identifying possible challenges to the transmission mechanism from trade liberalisation to poverty alleviation.

The key findings of each sub-goal are described below in sections 6.2, 6.3 and 6.4. Section 6.5 elaborates on the recommendations and future research and lastly 6.6 are the personal reflections and lessons learnt during the duration of my studies.

6.2 Sub-goal 1 - Analysing the stylised facts around trade and poverty in South Africa

Chapter 3 analysed the stylised facts around trade and poverty in South Africa. Trade openness has increased since the end of the apartheid era (Cattaneo and Dodd, 2007), however, with the increased trade openness, economic growth has been insufficient in reducing the high unemployment and poverty levels, presenting a challenge for economists who argue that trade openness is pro-growth and pro-poor (Magubu and Chitiga, 2007). South Africa's central economic policy strives to create inclusive growth and employment while having sustainable

finances being part of the fiscal objectives (SA Government, 2020). With the structural challenges identified, the South African government formulated the National Development Plan (NDP) in 2012, aiming to eradicate poverty and reduce inequality by 2030. The NDP converges with the Sustainable Development Goals (SDG) by 74% and prioritises job creation, elimination of poverty, reduction of inequality, and a growing inclusive economy. After analysing the stylised facts around trade in South Africa, the key findings were:

- From 2008 to 2020, South Africa's merchandise trade as a percentage of GDP has declined from 57.7% to 50.6% in 2020. After the massive decline between 2008 and 2009 there has been a general steady trend.
- For South Africa's imports of goods and services as a percentage of GDP, there has been a slow decline over the period 2008-2020 from 33.7% of the country's GDP in 2008 to 23.3% of GDP in 2020.
- Exports of goods and services annual percentage growth declined over the 2008-2020 period. The exports annual growth was 1.5% in 2008 and declined sharply to -11.9% by 2020.
- Using the Most Favoured Nation (MFN) weighted mean tariff rate, there has been a steady increase in South Africa's tariff rate. In 2008 the tariff rate was 4.76%. It steadily increased until a slight drop in 2014 to 5.44%. However, there was a steady rise with the rate reaching 9.39% in 2019.

The post-apartheid government inherited a highly unequal and poverty-stricken society. Poverty is high in former apartheid settlements, which are still being occupied by the black African population (Francis and Webster, 2019). Although South Africa has made progress in poverty reduction since 1994, after two decades of stagnant economic growth, in 2011, the trajectory of poverty reduction reversed, and started increasing again. (World Bank, 2018). The key findings around the stylised facts of poverty were:

- South Africa's Gini index was 0.63 in 2008 and later increased to 0.634 in 2010. However, by 2014 it had declined back to 0.63. Seemingly, there has been an increase in 2015 where the Gini index has reached 0.65, reporting high levels of inequality.
- Due to the segregation experienced by the black African households during apartheid, race, and gender largely determine the poverty profile in South Africa. Bhorat and Van

der Westhuizen (2012) conducted a study using the headcount rate and poverty gap ratio to track poverty changes for the first decade of democracy. By race, only black African individuals experienced a decline in poverty levels. The decline by race was relatively more extensive than the decline at the national rate. The decline is due to the African population being the majority and being the poorer race. By gender, their data illustrated that both male and female-headed households experienced a decline in poverty lines. Male-headed households experience a relatively more considerable decrease of more than 6% using the headcount ratio at ZAR322 per month poverty line, while the female-headed households experienced a slightly larger decline using the headcount ratio at the ZAR174 per month poverty line (Bhorat and Van der Westhuizen, 2012). Despite the female-headed household's more considerable poverty reduction, these households are still more vulnerable in both absolute and relative terms compared to the male-headed households.

- The poverty reduction in the first decade of democracy was due to a few critical policy interventions, such as social grants introduced by the post-apartheid government and redistributive fiscal policies. World Bank (2014) statistics show that 70% of grants and 54% of health spending went towards the poorest half of the population. From 1995 to 2011, extreme poverty was cut by half from 34.4% to 16.5%. South Africa's grants as a percentage to revenue have been steadily increasing over the years. From 7.76% of revenue contributing towards grants in 2008, in 2019 the figure had reached 16.1%. Also, the number of grants paid has increased, totalling 17515081 in 2018, with KwaZulu-Natal Province being the highest province receiving grants.

6.3 Sub-goal 2 - Mapping the transmission mechanisms from trade liberalisation to poverty alleviation in South Africa.

Chapter 4 used a path analysis to map the transmission mechanism trade liberalisation to poverty alleviation in South Africa, with chapter 5 elaborating and discussing the results. The key findings were:

- The descriptive statistics suggest that the main characteristics of the poor include a particular gender, ethnic group, age, employment status and level of education.

- In all three models, distribution, enterprise and government, had a direct effect of industry tariffs on the level of education. This shows that the industries that have high skilled workers have higher tariff levels and are more protected compared to the lower-skilled workers. Therefore, the higher the skills, the higher the level of protection in the industry and the lower the skill, the lower the protection in the industry. Therefore, industries with low skilled workers are exposed to high levels of competition, as they are more liberalised, which may adversely affect the poor household as they are the low skilled labour force.
- For the distribution channel, in path model 1, there was a direct relationship between CPI and income, whilst there was a direct relationship between CPI and industry tariffs. An increase in industry tariffs increased CPI which would later force employers to increase the employee's income. If this does not happen, employees will not afford what is in the consumer basket and this will reduce the standard of living, pushing people into poverty.
- The first path model for the enterprise channel results showed that the relationship between industry tariffs and income did not favour labour-intensive sectors, but the capital-intensive sectors for the increase in industry tariffs decreased income by approximately R125.26.
- The second path of the enterprise channel's results showed that a one-unit increase in industry tariffs decreased the level of employment by 0.02 %. Whilst an increase in the level of employment decreased income by approximately R60.46.
- Lastly, the government channel was not statistically significant. The South African government does not rely on the tariff taxes in order to meet their fiscal objectives such as social expenditures.

In essence, the transmission mechanism of trade and poverty in South Africa is via the enterprise and distribution channels. The government channel was statistically insignificant. However, the overall effects of both channels on the dependant variable was a relatively small effect of 0.144. This shows that despite the trade openness of the country, the trade policies are not doing enough to reduce the poverty levels in the country. The null hypothesis was rejected, trade liberalisation does affect poverty. This can be supported by the findings of Winters *et al.,* (2004) whereby the authors state that in the long run trade liberalisation is highly likely to be poverty alleviating, however, there is no convincing evidence that it will generally increase

overall poverty or vulnerability. Those who are still in poverty and vulnerable may the losers in the equation whilst other poorer households are the winners

6.4 Sub-goal 3 - Identifying possible challenges to the transmission mechanism from trade liberalisation to poverty alleviation.

This section discusses the last sub-goal of the study of the possible challenges to the transmission mechanism.

According to Hayashikawa (2009), the main challenges on poverty from trade liberalisation effects include revenue loss and adjustment burdens. With trade liberalisation comes tariff reductions which can result in revenue loss from lower tariff rates. The government will have the burden of making up for those adversely affected by the tariff reductions such as job and income losses. With most developing countries, they have the challenge of a debt burden (McCulloch *et al*., 2001). The countries may have challenges when feeing up imports for the threat of an unsustainable external debt can undermine the pursuit of economic growth.

In the South African case, Stern and Ramkolowan (2021), state that the country's exports have lagged behind compared to the rest of the world in the recent decades. Also, there has been low trade performance due to the structure of the country's export basket. Therefore, the challenges for South Africa include the export performance and diversification of the exports. Whereas, diversification of exports is important for the reaction to trade shocks economic transformation, sustained growth, and development (Fosu and Abass, 2019). In addition, South Africa has various features that may affect their reaction to trade shocks further. According to Erten *et al*., (2019), the county exhibits high levels of baseline unemployment, a relatively small informal sector and high barriers of entry compared to other middle-income countries may cause weak reaction to trade shocks. Of which these characteristics directly affect the poor. Also, wages are rigid due to strong presence of unions and the manufacturing sector is weak for it was underdeveloped from the beginning of the liberalisation era.

Also, the trade trends such as the merchandise to trade as a percentage of GDP, imports of goods and services as a percentage of GDP, exports of goods and services annual percentage growth have been declining since 2008-2020 yet the MFN weighted mean tariff rate increased during this period. It could be possible that there is a little more protection and the decline of

trade may be due to the hostile economic environment globally. With regards to poverty, South Africa already has the majority of the African population disadvantaged due to the apartheid era. Therefore, trying to mitigate the previous disadvantages and other challenges that may come up due to other reasons related to the current decade may be a game of catch up. This could be making it difficult to realise a comprehensive transmission mechanism.

6.5 Recommendations and Future Research

The key findings suggest that South Africa's trade policy should seek to diversify the trade basket in order to realise more gains from trade liberalisation. Also, some sectors that are protected and localised should have these measures relaxed in order to increase employment and consumption via competition. Trade has an effect on poverty, a positive one at that. A more comprehensive policy will reduce poverty.

Upon conducting this research, there were a number of themes that future research could investigate in order to understand the transmission mechanism between trade and poverty. Firstly, future research could widen the time frame of the research. This research investigated the period 2008 to 2018. It would be interesting conduct research from 1994 to 2021 in order to clearly see the transmission mechanism. This time fame could consider the volatile global environment, taking into consideration the financial crisis in 2008, the trade wars in 2018 and the COVID-19 pandemic in 2019/20. These global shocks had a direct effect on South Africa's economy, trade patterns and poverty levels. It would be interesting to see how they affected the transmission mechanism. Also, including the exchange rate would give more insight on the prices affecting the distribution channel. The rand has been volatile in the past decade and inflation has risen and this could affect bot trade and poverty and the relationship between the two. Using primary data for the poverty variables would be conducive for there are limitations to using secondary data. For example, some of the data in the NIDS dataset used had missing variables, therefore, this could have limited the results. Whereas if the researcher has collected their own data, the number of missing variables or entries will be less and there could be less bias. Lastly, a comparative study with another country with a similar economy and characteristics would give a comprehensive transmission mechanism.

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APPENDICES

APPENDIX A - Merchandise trade matrix in thousands United States dollars, annual, 2006-2020 (Exports and Imports)

ECONOMY	South Africa	FLOW	Exports	PARTNER	World										
YEAR	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
PRODUCT															
Labour-intensive and resource-intensive manufactures	205560 6,465	238370 1,21	220309 4,92	180147 4,93	361429 5,48	372896 1,59	343040 4,23	332996 8,29	335607 5,527	304090 9,872	277319 0,37	299623 1,825	314976 3,869	282014 6,905	242458 4,412
Low-skill and tech	689744 9,724	904519 2,29	106767 06,2	649368 9,56	104029 85,7	105614 87,1	936546 4,54	873339 2,2	939812 5,115	769871 4,43	738231 3,431	845177 2,883	879137 6,57	770421 1,952	589819 7,218

nology-intensive manufactures															
Medium-skill and technology-intensive manufactures	101 343 66,81	121 532 65,8	149 843 77,2	100 530 32,2	154 847 30,9	180 694 46,8	180 507 22,7	167 523 17,1	172 510 48,05	165 673 12,9	157 476 76,42	166 150 29,65	182 041 57,27	184 151 41,23	145 720 90,21
High-skill and technology-intensive manufactures	579 529 8,356	635 310 1,79	789 488 9,93	556 098 2,69	882 400 8,23	100 449 71,8	103 026 09,2	964 329 8,19	102 489 41,26	932 209 7,815	850 214 4,775	902 576 0,894	960 274 8,252	904 581 0,604	850 263 5,936
Prim	172 613	216 962	222 976	170 029	231 451	279 084	233 670	235 866	211 214	197 365	189 117	234 583	249 784	227 259	248 258

ary products	44,11	12,2	59,7	69,7	21,4	19,9	10,2	47,7	86,49	81,63	27,03	23,82	80,69	07,29	34,38
Resource-based manufactures: agro-based	3103835,123	3518442,53	3888055,56	3848998,21	5898698,85	6483062,87	6148551,3	6173868,2	6202790,77	5509462,605	5272386,02	5999327,635	6209717,341	5684809,42	5509196,411
Resource-based manufactures: other	9797070,733	11403010,1	15532126,7	11390005,1	18334112	24453694,1	22657294,2	23013350,7	21168614,01	16059837,59	14412948,73	18656465,43	20112863,02	20753270,89	18905362,44
Low technology manufactures:	577164,552	603147,869	546764,748	418657,447	1110155,5	1292375,15	1246938,91	1308654,72	1355167,398	1237554,607	1111980,169	1273841,371	1266710,488	1154780,829	984931,925

textile, garment and footwear															
Low technology manufactures: other products	4564646,077	5358910,63	4838125,55	3726508,39	6128794,58	6042777,14	5873240,1	5109728,01	5227310,149	4306668,89	4167643,112	4695069,379	5117889,743	4466543,322	3323517,788
Medium technology manufactures: automotive	4541341,636	4926825,06	7268068,02	4884733,66	7440647,76	8257354,99	8442594,3	7793919,42	8459633,522	8886152,93	8885684,565	9506886,192	10553589,61	11128041,27	8127932,953
Medium technolo	5200601,666	6915994,44	9566334,97	5814421,23	9425245,93	10048919,7	9446782,19	9307498,07	9996233,538	8434998,761	7775200,173	8802343,254	9087070,96	8407161,13	7648183,209

gy manufactures: process															
Medium technology manufactures: engineering	4949640,187	6490803,17	6936754,34	4427761,42	7398448,73	8824590,27	8571591,61	7995121,31	7864860,343	7026212,407	6377959,647	6433819,656	6947020,205	6471584,181	5724320,294
High technology manufactures: electronic and electrical	1130366,056	1353876,63	1392191,5	1186436,05	1669767,96	1903004,4	2004772,16	1896978,34	2161888,801	1846533,028	1625558,843	1593758,593	1581702,495	1499331,313	1346891,925
Hig	100102	105346	114122	744507	114978						137380	124178	110451	121324	100531

h tech nolo gy man ufac tures : othe r	3,79 1	9,0 2	6,3 4	,38 8	5,3 5						3,95 6	8,49 1	9,85 7	0,49 3	1,10 4
Uncl assif ied prod ucts	474 726, 006	705 916 ,81 1	558 238 ,57 6	418 893 ,46 4	929 871 ,89 8						599 770 5,09 4	657 159 5,04 4	671 786 9,81 5	589 131 8,07 2	782 528 3,89 3
EC ON OM Y	Sou th Afri ca	FL O W	Imp orts	PA RT NE R	Wo rld										
YE AR	200 6	200 7	200 8	200 9	201 0	201 1	201 2	201 3	201 4	201 5	201 6	201 7	201 8	201 9	202 0
PRO DU CT															
Lab our-inte nsiv e and reso urce - inte nsiv e man	516 083 3,40 4	573 541 5,1 4	555 532 3,3 3	489 180 9,8 9	656 659 4,3 4	765 778 6,1 6	757 848 3,4 4	767 410 1,4	752 821 7,08 7	728 605 7,91	665 290 2,64 3	695 220 6,83 8	768 231 3,06 6	741 763 7,65	622 823 5,31 2

ufac tures															
Low - skill and tech nolo gy- inte nsiv e man ufac tures	337 486 2,55 9	418 665 1,3 3	441 634 4,4 7	303 767 4,3 4	390 170 4,8 8	493 267 7,2	497 372 8,3 9	523 786 0,6 7	470 034 5,87 2	491 834 9,36 8	391 176 7,15 1	410 804 1,12 7	425 612 1,88	396 701 5,27 2	323 902 0,54 6
Med ium- skill and tech nolo gy- inte nsiv e man ufac tures	187 389 30,7 1	222 125 04, 6	226 295 42, 8	163 259 72, 3	212 494 81, 8	268 349 37, 9	273 010 19, 8	275 564 72, 4	248 197 74,2 4	223 234 99,3 2	191 769 24,0 1	212 433 15,1 6	215 160 87,1 8	212 143 94,8 4	162 092 21,6 9
Hig h- skill and tech nolo gy- inte nsiv e man ufac tures	165 877 88,0 2	184 973 22, 8	204 205 31	159 689 17, 4	215 031 77, 5	247 743 12, 9	236 979 19, 5	238 149 05, 7	229 951 16,0 2	218 285 47,0 3	196 085 74,9 9	212 847 88,2 2	235 698 92,4 4	227 577 53,7 2	192 663 77,1
Prim ary	126 530 89,5 4	148 423 85, 3	198 625 28, 8	137 940 15, 5	158 222 83, 4	203 170 87, 7	220 206 59, 4	205 051 79, 6	221 617 69,2 8	135 174 52,0 3	123 607 69,8 1	127 254 72	175 530 01,6 4	149 893 56,5 8	103 879 32,6 1

products															
Resource-based manufactures: agro-based	2992039,618	3999733,98	4130923,89	3563230,28	4794173,78	5772330,88	6153287,56	5912033,3	5463744,067	4878299,518	4715065,581	5318251,647	5609953,055	5516652,569	4593750,689
Resource-based manufactures: other	7002049,152	8638115,31	9139953,02	5929305,47	8699607,01	11902288,6	11712539	12100316,8	10986897,54	9435017,723	7199996,437	9435351,892	10251401,63	9515016,154	7837424,093
Low technology manufactures: textile, garment and footwear	2648174,953	2694713,15	2637836,23	2534718,47	3601067,3	4321475,64	4190408,1	4320657,18	4213760,925	4179949,331	3830323,777	4005201,399	4339236,618	4191182,32	3780782,42
Low technology	4184288,677	4956063,18	5335245,81	4152137,41	5297947,29	6436874,03	6267820,18	6432634,09	5883516,807	5652696,349	4982174,064	5177428,538	5481458,451	5264788,656	4212273,994

manufactures: other products															
Medium technology manufactures: automotive	6497918,312	7651513,75	6052544,47	4273761,02	6785597,29	8630274,26	8733051,52	8601936,6	7687460,758	6831862,05	5514685,85	6553995,151	6673362,426	6568937,188	4095238,142
Medium technology manufactures: process	4409345,847	5393792,84	5971286,75	4429400,77	5893129,12	7246828,52	7321469,09	7415373,15	7487973,285	7122924,431	6045246,801	6698447,266	7423540,142	6735402,678	5818484,844
Medium technology manufactures: engineering	11056428,11	12866123,2	14189055,2	9678082,81	11624234,1	14569041,6	14892038,4	14708518,8	13172941,16	11972278,03	10676221,34	11602835,8	11965781,49	11544803,34	9396412,393

High technology manufactures: electronic and electrical	808947 1,66	873330 3,7	937079 5,12	758944 1,85	981344 4,94	108064 60,8	102697 72,5	119163 30,3	111514 01,59	108024 20,52	900215 0,197	946358 1,68	978790 2,314	981302 1,055	811281 3,375
High technology manufactures: other	318587 5,774	383271 7,96	455678 9,17	382495 4,21	499005 5,28						433722 4,829	434862 1,663	436665 2,454	444007 5,152	373676 6,714
Unclassified products	575044 3,52	626412 4,8	634610 9,31	399701 0,17	577824 1,56						648527 6,489	775769 3,523	918467 1,538	945825 5,118	697127 7,188

Source: UNCTAD (2020).

APPENDIX B - Import tariff rates on non-agricultural and non-fuel products, annual (tariff lines and duty-free lines)

Indicator: Number of tariff lines		**Origin: World**	**Duty Type:Most Favoured Nation Rate**												
		Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Market	**Product Category**														
South Africa	**Manufactured goods, ores and metals**		5416	54255	55504	55585	56223	56557	56887	57822	58133	56955	58555	58830	58772
	Ores and metals		293	293	298	298	298	298	298	299	304	304	308	308	308
	Manufactured goods		5123	51320	52067	52887	53259	53589	54833	55009	5911	55477	55222	55564	
	Chemical Products		1210	12100	12663	12955	12977	13056	13806	13971	13119	14682	14099	14099	
	Machinery and transport equiptment		1229	12299	12388	12733	12887	12911	12933	12977	13033	12911	12944	13044	13077
	Other manufactured goods		2685	26944	27066	27720	27742	27764	27911	28077	28110	27822	27866	28110	28499

Indicator: Number of duty-free lines		**Origin: World**	**Duty Type: Most Favoured Nation Rate**												
		Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Market	**Product Category**														
South Africa	**Manufactured goods, ores and metals**		2992	2989	32110	32470	32900	32977	33306	33522	33600	32155	33110	33077	33308
	Ores and metals		233	233	256	256	260	261	261	262	267	267	271	271	271
	Manufactured goods		2759	2756	29954	29911	30300	30336	30445	30900	30933	29488	30399	30336	30337
	Chemical Products		881	881	9889	10055	10177	10200	10224	10073	10833	10225	11222	11110	11110
	Machinery and transport equipment		833	832	862	878	887	890	891	891	893	884	888	896	900
	Other manufactured goods		1046	1044	1104	1109	1127	1127	1131	1127	1118	1040	1030	1031	1028

Source: UNCTAD (2020)

APPENDIX C – Summary of South Africa's trade agreements

	Type of Agreement	Main Objective/Terms	Product Involved
Southern African Customs Union (SACU)	Customs Union	Duty-free movement of goods; a standard external tariff applied on goods entering any of the countries from outside the SACU	All products
Southern African Development Community (SADC): Protocol on Trade in Goods	Free Trade Agreement: Protocol on Trade in Goods	AFTA, with 85% duty-free trade achieved in 2008. The 15% of trade, constituting the "sensitive list," was largely liberalised from 2009 to 2012.	Most products
Southern African Development Community (SADC): Protocol on Trade in Services	Services trade liberalisation: Protocol on trade in services	Liberalise trade in services. Seven of the 15 signatory countries have ratified, awaiting a further three countries to ratify the Protocol, for it to enter into force.	Six services sectors initially (communication, construction, energy, finance, transport, tourism); other sectors might follow in the second round of negotiations.
Trade, Development and Cooperation Agreement (TDCA) (Link: schedule 10 to the Customs and Excise Act, Part 1A: https://www.sars.gov.za/Legal/Primary-Legislation/Pages/Schedules-to-the-Customs-and-Excise-Act.aspx	Free Trade Agreement	The EU offered to liberalise 95% of its duties on South African originating products by 2010. In turn, by 2012, South Africa offered to liberalise 86% of its duties on EU originating products.	The TDCA was reviewed with the aim of broadening the scope of product coverage. This took place under the auspices of the Economic Partnership Agreement

			(EPA) negotiations between SADC and the EU. Resulting from these negotiations, the TDCA trade chapter was replaced by the SADC-EU Economic Partnership Agreement.
EFTA-SACU Free Trade Agreement (FTA)	Free Trade Agreement	Tariff reductions on selected goods	Industrial goods (including fish and other marine products) and processed agricultural products. Basic agricultural products are covered by bilateral agreements with individual EFTA States.
Economic Partnership Agreement between the SADC EPA States, and the European Union and its Member States (Link: schedule 10 to the Customs and Excise Act, Part 1B: https://www.sars.gov.za/Legal/Primary-Legislation/Pages/Schedules-to-the-Customs-and-Excise-Act.aspx	Economic Partnership Agreement	SA's core interest has been to harmonise trading regimes between SACU and the EU; to secure further market access in agriculture (beyond the SA-EU Trade Development and Cooperation Agreement (TDCA) provisions) and regain some policy space lost under the TDCA.	The Agreement covers most products. It replaces the Trade Chapter of the TDCA.

SACU-Southern Common Market (Mercosur) PTA (Link: schedule 10 to the Customs and Excise Act, Part 7: https://www.sars.gov.za/Legal/Primary-Legislation/Pages/Schedules-to-the-Customs-and-Excise-Act.aspx	Preferential Trade Agreement	Tariff reductions on selected goods. It entered into force on 21 October 2016	About 1 000 product lines on each side of the border
Zimbabwe/South Africa bilateral trade agreement	Bilateral Preferential Trade Agreement	Preferential rates of duty, rebates, and quotas on certain goods traded between the two countries	
Generalised System of Preferences (GSP)	Unilateral preferences granted under the enabling clause of the WTO; these preferences are not contractually binding upon the benefactors	Products from developing countries qualify for preferential market access into these markets	Selected industrial and agricultural products
Africa Growth and Opportunity Act (AGOA) https://agoa.info/images/documents/5695/bills-114hr1295enr.pdf	Unilateral assistance measure; similar to the GSP programmes but broader in scope	Preferential access to the US market through lower tariffs or no tariffs on selected products	Duty-free access to the US market under the combined AGOA/GSP programme stands at approximately 7 000 product tariff lines.
SACU-India PTA	Preferential Trade Agreement	Tariff reductions on selected goods	SACU and India are in the process of exchanging tariff requests
SADC-EAC-COMESA Tripartite FTA	Free Trade Agreement	The Tripartite Framework derives its basis from the Lagos Plan of Action and the Abuja Treaty establishing the	The FTA will, as a first phase, cover only trade in goods; services and other trade-related areas will be covered

		African Economic Community (AEC), which requires rationalisation of the continent's regional economic communities. The Tripartite initiative comprises three pillars that will be pursued concurrently in order to ensure an equitable spread of the benefits of regional integration: market integration, infrastructure development, and industrial development	in a second phase. The framework agreement and several annexes have been concluded; ratification in member countries is underway. South Africa has ratified. Ratifications have not yet reached the required number for it to enter into force. Negotiating the tariff liberalisation schedules are underway. The negotiating modalities require that duties on 60 to 85% of tariff lines be liberalised upon entry into force; the remaining tariff lines will be subject to negotiation for liberalisation, with implementation over a 5 to 8 year period. Work in Phase II has commenced
The African Continental Free Trade Area (AfCFTA)	Free Trade Agreement	The key objectives of the AfCFTA are to, among others,	– Agreement establishing the AfCFTA – Protocol on

		create a single market for Goods and Services and enhance economic integration in the African Continent in accordance with the Pan African Vision of "An integrated, prosperous and peaceful Africa" enshrined in Agenda 2063; promote structural transformation of the State Parties; boost intra-Africa trade by progressively eliminating tariffs and non-tariff barriers to trade in goods; progressively liberalise trade in services; cooperate on customs matters and the implementation of trade facilitation measures; and design a mechanism for the settlement of disputes concerning their rights and obligations. The AU Assembly launched the AfCFTA negotiations during the 25th Ordinary Summit of Heads of States and Governments	Trade in Goods and Annexes – Protocol on Trade in Services – Protocol on the Rules and Procedures for the Settlement of Disputes. Phase II of the negotiations will cover Competition, Intellectual Property, and Investment. The AfCFTA is being pursued under the development integration approach, which places emphasis on market integration, infrastructure, and industrial development, to address Africa's productive capacity and supply-side constraints.

		on 15 June 2015 in Johannesburg, South Africa; adopted the legal instruments establishing the AfCFTA on 21 March 2018 in Kigali, Rwanda and launched the operational phase of the Agreement during the Extra-Ordinary Summit held July 2019 in Niamey, Niger. South Africa signed the Agreement and deposited the instrument of ratification on 1 July 2018 and 10 February 2019, respectively. Effectively, the Agreement entered into force as of 30 May 2019.	

Source: The Department of Trade, Industry, and Competition (2020)

APPENDIX D - Distribution channel path 1

```
Fitting target model:

Iteration 0:   log pseudolikelihood =  -32278329
Iteration 1:   log pseudolikelihood =  -32278270
Iteration 2:   log pseudolikelihood =  -32278270

Structural equation model                       Number of obs     =    970,068
Estimation method  = ml
Log pseudolikelihood=  -32278270
```

	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
Edu <-						
industry_tariffs	.0871136	.0005111	170.45	0.000	.0861119	.0881152
_cons	4.41737	.0045045	980.67	0.000	4.408541	4.426198
income <-						
cpi_n	22.61585	.335046	67.50	0.000	21.95917	23.27253
industry_tariffs	-135.5015	1.361364	-99.53	0.000	-138.1697	-132.8332
b_age	122.1017	1.10378	110.62	0.000	119.9383	124.2651
race	871.308	7.712197	112.98	0.000	856.1924	886.4236
_cons	-3278.625	62.79593	-52.21	0.000	-3401.703	-3155.548
cpi_n <-						
industry_tariffs	.4444537	.0046115	96.38	0.000	.4354153	.453492
_cons	114.0022	.0398647	2859.73	0.000	113.924	114.0803
rem <-						
income	.1441807	.0010311	139.84	0.000	.1421598	.1462015
_cons	528.5161	3.803387	138.96	0.000	521.0616	535.9706
var(e.Edu)	4.329704	.0064016			4.317175	4.342269
var(e.income)	3.27e+07	195624.7			3.23e+07	3.31e+07
var(e.cpi_n)	362.8816	.3355816			362.2244	363.5399
var(e.rem)	1829628	8383.644			1813270	1846133
cov(e.Edu,e.income)	-1867.947	11.72592	-159.30	0.000	-1890.929	-1844.964

Fit statistic	Value	Description
Size of residuals		
SRMR	0.032	Standardized root mean squared residual
CD	0.116	Coefficient of determination

Note: model was fit with vce(robust); only stats(residuals) valid.

Direct effects

	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
Edu <-						
industry_tariffs	.0871136	.0005111	170.45	0.000	.0861119	.0881152
income <-						
cpi_n	22.61585	.335046	67.50	0.000	21.95917	23.27253
industry_tariffs	-135.5015	1.361364	-99.53	0.000	-138.1697	-132.8332
b_age	122.1017	1.10378	110.62	0.000	119.9383	124.2651
race	871.308	7.712197	112.98	0.000	856.1924	886.4236
cpi_n <-						
industry_tariffs	.4444537	.0046115	96.38	0.000	.4354153	.453492
rem <-						
income	.1441807	.0010311	139.84	0.000	.1421598	.1462015
cpi_n	0	(no path)				
industry_tariffs	0	(no path)				
b_age	0	(no path)				
race	0	(no path)				

Indirect effects

	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
Edu <-						
industry_tariffs	0	(no path)				
income <-						
cpi_n	0	(no path)				
industry_tariffs	10.0517	.1847296	54.41	0.000	9.689634	10.41376
b_age	0	(no path)				
race	0	(no path)				

Fit statistic	Value	Description
Size of residuals		
SRMR	0.031	Standardized root mean squared residual
CD	0.014	Coefficient of determination

Note: model was fit with vce(robust); only stats(residuals) valid.

APPENDIX E - Distribution channel path 2

```
Fitting target model:

Iteration 0:   log pseudolikelihood =  -30356404
Iteration 1:   log pseudolikelihood =  -30356404

Structural equation model                       Number of obs     =    970,068
Estimation method  = ml
Log pseudolikelihood=  -30356404
```

	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
trgdp <-						
industry_tariffs	-.0733031	.0013229	-55.41	0.000	-.075896	-.0707102
_cons	62.12844	.0121151	5128.17	0.000	62.10469	62.15218
income <-						
trgdp	-50.53498	2.988146	-16.91	0.000	-56.39164	-44.67832
tot	-130.2891	2.370592	-54.96	0.000	-134.9354	-125.6428
cpi_n	62.59214	.4726111	132.44	0.000	61.66584	63.51845
industry_tariffs	-150.0612	1.552453	-96.66	0.000	-153.104	-147.0185
_cons	19601.89	489.0948	40.08	0.000	18643.28	20560.49
tot <-						
trgdp	-1.447509	.0004434	-3264.93	0.000	-1.448378	-1.44664
_cons	230.8319	.0297722	7753.26	0.000	230.7735	230.8902
cpi_n <-						
tot	1.503612	.0010138	1483.09	0.000	1.501625	1.505599
_cons	-95.72197	.1348248	-709.97	0.000	-95.98622	-95.45772
rem <-						
income	.1441807	.0010311	139.84	0.000	.1421598	.1462015
_cons	528.5161	3.803387	138.96	0.000	521.0616	535.9706
var(e.trgdp)	31.74518	.0464167			31.65433	31.83629
var(e.income)	3.48e+07	226786.2			3.44e+07	3.53e+07
var(e.tot)	9.014412	.0075105			8.999704	9.029144
var(e.cpi_n)	195.0769	.1174212			194.8469	195.3071
var(e.rem)	1829628	8383.644			1813270	1846133

Direct effects

	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
trgdp <-						
industry_tariffs	-.0733031	.0013229	-55.41	0.000	-.075896	-.0707102
income <-						
trgdp	-50.53498	2.988146	-16.91	0.000	-56.39164	-44.67832
tot	-130.2891	2.370592	-54.96	0.000	-134.9354	-125.6428
cpi_n	62.59214	.4726111	132.44	0.000	61.66584	63.51845
industry_tariffs	-150.0612	1.552453	-96.66	0.000	-153.104	-147.0185
tot <-						
trgdp	-1.447509	.0004434	-3264.93	0.000	-1.448378	-1.44664
industry_tariffs	0	(no path)				
cpi_n <-						
trgdp	0	(no path)				
tot	1.503612	.0010138	1483.09	0.000	1.501625	1.505599
industry_tariffs	0	(no path)				
rem <-						
trgdp	0	(no path)				
income	.1441807	.0010311	139.84	0.000	.1421598	.1462015
tot	0	(no path)				
cpi_n	0	(no path)				
industry_tariffs	0	(no path)				

Indirect effects

	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
trgdp <-						
industry_tariffs	0	(no path)				

APPENDIX F – Enterprise channel path 1

```
Fitting target model:

Iteration 0:   log pseudolikelihood =  -28045820
Iteration 1:   log pseudolikelihood =  -28045760
Iteration 2:   log pseudolikelihood =  -28045760

Structural equation model                       Number of obs     =    970,068
Estimation method  = ml
Log pseudolikelihood=  -28045760
```

	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
Edu <-						
industry_tariffs	.0871136	.0005111	170.45	0.000	.0861119	.0881152
_cons	4.41737	.0045045	980.67	0.000	4.408541	4.426198
income <-						
industry_tariffs	-125.2632	1.298602	-96.46	0.000	-127.8084	-122.718
race	900.0065	7.705322	116.80	0.000	884.9044	915.1087
b_age	124.9873	1.130911	110.52	0.000	122.7707	127.2038
_cons	-853.4791	41.41461	-20.61	0.000	-934.6502	-772.3079
rem <-						
income	.1441807	.0010311	139.84	0.000	.1421598	.1462015
_cons	528.5161	3.803387	138.96	0.000	521.0616	535.9706
var(e.Edu)	4.329704	.0064016			4.317175	4.342269
var(e.income)	3.29e+07	197719.8			3.25e+07	3.33e+07
var(e.rem)	1829628	8383.644			1813270	1846133
cov(e.Edu,e.income)	-1858.267	11.72456	-158.49	0.000	-1881.247	-1835.287

Fit statistic	Value	Description
Size of residuals		
SRMR	0.031	Standardized root mean squared residual
CD	0.110	Coefficient of determination

Direct effects

	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
Edu <-						
industry_tariffs	.0871136	.0005111	170.45	0.000	.0861119	.0881152
income <-						
industry_tariffs	-125.2632	1.298602	-96.46	0.000	-127.8084	-122.718
race	900.0065	7.705322	116.80	0.000	884.9044	915.1087
b_age	124.9873	1.130911	110.52	0.000	122.7707	127.2038
rem <-						
income	.1441807	.0010311	139.84	0.000	.1421598	.1462015
industry_tariffs	0	(no path)				
race	0	(no path)				
b_age	0	(no path)				

Indirect effects

	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
Edu <-						
industry_tariffs	0	(no path)				
income <-						
industry_tariffs	0	(no path)				
race	0	(no path)				
b_age	0	(no path)				
rem <-						
income	0	(no path)				
industry_tariffs	-18.06054	.2362916	-76.43	0.000	-18.52366	-17.59741
race	129.7635	1.529115	84.86	0.000	126.7665	132.7605
b_age	18.02075	.237389	75.91	0.000	17.55547	18.48602

APPENDIX G - Enterprise channel path 2

```
Fitting target model:

Iteration 0:   log pseudolikelihood =  -26519166
Iteration 1:   log pseudolikelihood =  -26519166

Structural equation model                       Number of obs     =    970,068
Estimation method  = ml
Log pseudolikelihood=  -26519166
```

	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
Empl <-						
industry_tariffs	-.0021107	.000132	-15.99	0.000	-.0023694	-.0018519
_cons	1.086275	.0011801	920.53	0.000	1.083962	1.088588
income <-						
Empl	-60.46379	16.06499	-3.76	0.000	-91.9506	-28.97698
industry_tariffs	-125.7439	1.290049	-97.47	0.000	-128.2724	-123.2155
race	885.1312	7.669309	115.41	0.000	870.0997	900.1628
b_age	122.4488	1.161505	105.42	0.000	120.1723	124.7253
_cons	-667.7423	51.64226	-12.93	0.000	-768.9593	-566.5254
rem <-						
income	.1441807	.0010311	139.84	0.000	.1421598	.1462015
_cons	528.5161	3.803387	138.96	0.000	521.0616	535.9706
var(e.Empl)	.1815185	.0014763			.178648	.1844352
var(e.income)	3.29e+07	197914.8			3.25e+07	3.33e+07
var(e.rem)	1829628	8383.644			1813270	1846133

Fit statistic	Value	Description
Size of residuals		
SRMR	0.035	Standardized root mean squared residual
CD	0.083	Coefficient of determination

Note: model was fit with vce(robust); only stats(residuals) valid.

Direct effects

	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
Empl <-						
industry_tariffs	-.0021107	.000132	-15.99	0.000	-.0023694	-.0018519
income <-						
Empl	-60.46379	16.06499	-3.76	0.000	-91.9506	-28.97698
industry_tariffs	-125.7439	1.290049	-97.47	0.000	-128.2724	-123.2155
race	885.1312	7.669309	115.41	0.000	870.0997	900.1628
b_age	122.4488	1.161505	105.42	0.000	120.1723	124.7253
rem <-						
Empl	0	(no path)				
income	.1441807	.0010311	139.84	0.000	.1421598	.1462015
industry_tariffs	0	(no path)				
race	0	(no path)				
b_age	0	(no path)				

Indirect effects

	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
Empl <-						
industry_tariffs	0	(no path)				
income <-						
Empl	0	(no path)				
industry_tariffs	.1276186	.0359165	3.55	0.000	.0572236	.1980136
race	0	(no path)				
b_age	0	(no path)				
rem <-						
Empl	-8.717709	2.316261	-3.76	0.000	-13.2575	-4.17792
income	0	(no path)				
industry_tariffs	-18.11144	.2370636	-76.40	0.000	-18.57608	-17.64681
race	127.6188	1.512705	84.36	0.000	124.654	130.5837
b_age	17.65475	.2367067	74.58	0.000	17.19082	18.11869

APPENDIX H – Government channel path

```
Fitting target model:

Iteration 0:   log likelihood = -7217.6387
Iteration 1:   log likelihood = -7217.6387

Structural equation model                       Number of obs     =        237
Estimation method  = ml
Log likelihood     = -7217.6387
```

	OIM Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
Edu <-						
industry_tariffs	.0698737	.029047	2.41	0.016	.0129427	.1268047
gend	.5097322	.2763101	1.84	0.065	-.0318256	1.05129
_cons	4.110489	.4567413	9.00	0.000	3.215292	5.005685
grants <-						
Edu	-7.753368	36.84439	-0.21	0.833	-79.96705	64.46031
industry_tariffs	-15.24942	16.92089	-0.90	0.367	-48.41375	17.91492
b_age	8.331196	5.71362	1.46	0.145	-2.867293	19.52968
cpi_n	-7.217663	3.902463	-1.85	0.064	-14.86635	.4310233
_cons	1647.589	521.2078	3.16	0.002	626.0404	2669.137
rem <-						
grants	.0396066	.0408007	0.97	0.332	-.0403612	.1195745
gend	-290.247	99.96953	-2.90	0.004	-486.1837	-94.31033
_cons	1124.216	144.746	7.77	0.000	840.5186	1407.913
var(e.Edu)	3.985792	.366147			3.329053	4.77209
var(e.grants)	1288508	118366.3			1076200	1542699
var(e.rem)	522234.5	47974.05			436185.9	625258.4

```
LR test of model vs. saturated: chi2(7)   =     18.16, Prob > chi2 = 0.0113
```

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(7)	18.164	model vs. saturated
p > chi2	0.011	
chi2_bs(15)	42.502	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.082	Root mean squared error of approximation
90% CI, lower bound	0.036	
upper bound	0.129	
pclose	0.110	Probability RMSEA <= 0.05
Information criteria		
AIC	14463.277	Akaike's information criterion
BIC	14511.830	Bayesian information criterion
Baseline comparison		
CFI	0.594	Comparative fit index
TLI	0.130	Tucker-Lewis index
Size of residuals		
SRMR	0.046	Standardized root mean squared residual
CD	0.094	Coefficient of determination

Direct effects

	OIM Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
Edu <-						
industry_tariffs	.0698737	.029047	2.41	0.016	.0129427	.1268047
gend	.5097322	.2763101	1.84	0.065	-.0318256	1.05129
grants <-						
Edu	-7.753368	36.84439	-0.21	0.833	-79.96705	64.46031
industry_tariffs	-15.24942	16.92089	-0.90	0.367	-48.41375	17.91492
gend	0	(no path)				
b_age	8.331196	5.71362	1.46	0.145	-2.867293	19.52968
cpi_n	-7.217663	3.902463	-1.85	0.064	-14.86635	.4310233
rem <-						
Edu	0	(no path)				
grants	.0396066	.0408007	0.97	0.332	-.0403612	.1195745
industry_tariffs	0	(no path)				
gend	-290.247	99.96953	-2.90	0.004	-486.1837	-94.31033
b_age	0	(no path)				
cpi_n	0	(no path)				

Indirect effects

	OIM Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Structural						
Edu <-						
industry_tariffs	0	(no path)				
gend	0	(no path)				
grants <-						
Edu	0	(no path)				
industry_tariffs	-.5417567	2.584287	-0.21	0.834	-5.606865	4.523352
gend	-3.952142	18.90257	-0.21	0.834	-41.00049	33.09621
b_age	0	(no path)				
cpi_n	0	(no path)				
rem <-						
Edu	-.3070848	1.459282	-0.21	0.833	-3.167225	2.553056
grants	0	(no path)				
industry_tariffs	-.6254352	.9234817	-0.68	0.498	-2.435426	1.184556
gend	-.156531	.7658354	-0.20	0.838	-1.657541	1.344479
b_age	.3299706	.4083564	0.81	0.419	-.4703933	1.130334
cpi_n	-.2858673	.3325832	-0.86	0.390	-.9377184	.3659838

FAF