

**The Nexus Between Trade Liberalisation and Poverty Reduction in South Africa:
An Empirical ARDL Analysis (1993–2024)**

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ABSTRACT

South Africa (SA) remains one of the largest economies in Sub-Saharan Africa (SSA), yet poverty persists despite extensive post-1994 trade liberalisation. This study examines the dynamic relationship between trade liberalisation and poverty reduction using annual data for the period 1993–2024. The autoregressive distributed lag (ARDL) bounds testing approach is applied to estimate both long-run relationships and short-run dynamics. Poverty is measured using the upper-bound poverty line, lower-bound poverty line, and food poverty line. Trade liberalisation is proxied by total trade openness, while control variables include foreign direct investment, inflation, unemployment, GDP per capita growth, and a global financial crisis dummy for the period 2008–2009.

The results confirm a stable long-run relationship across all models. Trade liberalisation consistently reduces poverty, although the effect is weaker for food poverty. Inflation increases poverty, with particularly strong long-run effects on lower-bound and food poverty, highlighting the sensitivity of poor households to rising living costs. GDP per capita growth contributes to poverty reduction, especially at the food poverty threshold. The effects of unemployment and foreign direct investment are mixed. Persistent unemployment increases food poverty over time, while foreign direct investment is associated with weaker poverty reduction outcomes due to its concentration in capital-intensive sectors and limited labour absorption.

The findings indicate that trade-led poverty reduction depends on complementary policies that address key transmission constraints. Policy should prioritise stabilising food-related costs to protect households near the food poverty line, promoting labour-absorbing sectors to strengthen employment outcomes from trade, and aligning foreign direct investment policy towards investment with strong domestic linkages and employment-creation effects.

KEY TERMS

Trade liberalisation; poverty reduction; South Africa; ARDL bounds testing; upper-bound poverty line; lower-bound poverty line; food poverty line; inflation; unemployment; foreign direct investment; GDP per capita growth.

KAKARETŠO

Afrika Borwa (SA) e sa dutše e le ye nngwe ya diikonomi tše kgolo ka Afrika ya Borwa bja Sahara (SSA), le ge go le bjalo bohloki bo tšwela pele ntle le maitapišo a magolo a tokollo ya kgwebišano go tloga ka 1994. Nyakišišo ye e nyakišišitše kamano ye e fetogago gare ga tokollo ya kgwebišano le phokotšo ya bohloki ka go šomiša datha ya ngwaga le ngwaga go tloga ka 1993 go fihla go 2024. Foreimiweke ya teko ya tšhalelo ya magomo ao a phatlaladitšwego ya *autoregressive* (ARDL) e šomišitšwe go akanya bobedi dikamano tša nako ye telele le dipeakanyo tša nako ye kopana. Bohloki bo elwa ka go šomiša tlemo ya godimo (upper-bound), tlemo ya fase (lower bound) le maemo a bohloki (poverty lines), mola tokollo ya kgwebišano e emetšwe ke go bulega ga kgwebišano ka botlalo. Mmotlolo o akaretša gape dipeeletšo tša thwii tša dinaga tša ka ntle, infoleišene, tlhokego ya mešomo, kgolo ya GDP ka motho, le phetogo ya bofora yeo e swarago nako ya 2008–2009 ya mathata a ditšhelete a lefase ka bophara bjalo ka mabaka a taolo.

Dipoelo di laetša kamano ye e tsepamego ya nako ye telele go ralala le dimotlolo ka moka tše di akantšwego. Tokologo ya kgwebišano e tlaleletša ka go se fetoge phokotšong ya bohloki, le ge e le gore khuetšo ya yona e fokola ge e bapetšwa le bohloki bja dijo. Infoleišene e na le mafelelo a go oketša bohloki, ka ditlamorago tše maatla kudu tša nako ye telele go bohloki bja mellwane ya fase le ya dijo, go laetša go hlaselega gabonolo ga malapa ao a phelago bohloking go ditshenyegelo tša bophelo tše di hlatlogago. Kgolo ya GDP ka motho e thekga phokotšo ya bohloki, kudu go bogomo bja bohloki bja dijo. Ditlamorago tša tlhokego ya mešomo le peeletšo ya thwii ya dinaga tša ka ntle di kopantšwe: tlhokego ya mešomo ye e tšwelagopele e oketša bohloki bja dijo ge nako e dutše e sepela, mola peeletšo ya thwii ya dinaga tša ka ntle e amana le dipoelo tše di fokolago tša go fokotša bohloki, e laetša go tsepama ga yona ka makaleng ao a šomišago tšhelete ye ntši ao a nago le dikgoba tše nnyane tša mošomo.

Dikutollo di šišinya gore ditlamorago tša go fokotša bodiidi tša kgwebišano di ithekgile ka melawana ya tlaleletšo yeo e lebanego le dithibelo tše bohlokwa tša phetišetšo. Pholisi e swanetše go etiša pele go tsepamiša ditshenyegelo tša dijo go šireletša malapa ao a kgobokanego go dikologa maemo a bohloki bja dijo, go tšwetša pele makala a go fa mešomo go godiša dipoelo tša mešomo go tšwa go kgwebišano, le go lebiša leswa pholisi ya dipeeletšo tša thwii tša dinaga tša ka ntle go ya go mešongwana yeo e nago le dikgokagano tše maatla tša ka nageng le bokgoni bjo bogolo bja tlhomo ya mešomo.

Mareo a bohlokwa: tokollo ya kgwebišano; phokotšo ya bohloki; Afrika Borwa ; teko ya ditlemo ya ARDL ; maemo a godimo a bohloki; maemo a bohloki bja tlemo ya fase; maemo a

bohloki bja dijo; inifoleišene; tlhokego ya mešomo; peeletšo ya thwii ya dinaga tša ka ntle;
kgolo ya GDP ka motho

ISIFINYEZO

INingizimu Afrika (SA) isaqhubeka nokuba yizwe elenza kahle kwezomnotho e-Sub-Saharan Africa (SSA), nakuba ububha busaqhubeka nokubakhona phezu kwemizamo eminingi yokukhululwa kohwebo kusukela ngonyaka we-1994. Lolu cwaningo luhlola ubudlelwano obuguquguqukayo phakathi kokukhululwa kohwebo nokuncishiswa kobubha kusetshenziswa idatha yonyaka kusukela ngonyaka we-1993 kuya kowezi-2024.

Uhlaka lokuhlola lwe-autoregressive distributed lag (ARDL) lwasetshenziswa ukulinganisa ubudlelwano besikhathi eside kanye nezinguquko zesikhathi esifushane. Ububha bukhonjiswa ngokusebenzisa izinga eliphezulu, izinga eliphansi, kanye nezinga lobubha ngesikhathi ukukhululwa kohwebo kumelwa ukuvuleleka kokuhweba okuphelele. Le modeli iphinde ihlanganise ukutshalwa kwezimali ngqo kwamanye amazwe, ukunyuka kwentengo, ukungasebenzi, ukukhula kwe-GDP ngomuntu ngamunye, kanye nohlobo olutshengisa isikhathi sobunzima bezezimali emhlabeni-jikele phakathi konyaka wezi -2008 nowezi-2009 njengenywe yezinto ezilawula ubunzima bomnotho.

Imiphumela ikhombisa ukuthi kunobudlelwano obuzinzile besikhathi eside kuwo wonke amamodeli alinganisiwe. Ukukhululwa kohwebo kunomthelela oqhubekayo ekuncishisweni kobubha, nakuba umthelela wakhona uthanda ukuntengantenga mayelana nokwentuleka kokudla. Ukwenyuka kwentengo kunesandla ekunyuseni izinga lobubha, ikakhulukazi ngokuba nemiphumela enamandla yesikhathi eside emazingeni aphansi kanye nokwentuleka kokudla, okugqamisa ubuthakathaka bemindeni ehlaselwe ububha ngenxa yokunyuka kwezindleko zokuphila. Ukukhula kwe-GDP ngomuntu ngamunye kuyalekeleka ekunciphiseni ububha, ikakhulukazi ezingeni lokwentuleka kokudla. Imiphumela yokungabi namisebenzi kanye notshalozimali lwangaphandle luyingxubevange: ukungabi namisebenzi okuqhubekayo kwandisa ukwentuleka kokudla ngokuhamba kwesikhathi, kanti utshalozimali lwangaphandle luxhumene nemiphumela yokwehlisa ububha entekenteke, eveza ukugxila kwayo emikhakheni edinga imali eningi nengasebenzisi abasebenzi abaningi.

Imiphumela iveza ukuthi umthelela wokuncishiswa kobubha ngokuhweba incike kwizinqubomgomo ezihambisanayo ezibhekana nezithiyo ezibalulekile zokudluliswa. Inqubomgomo kufanele igxile ekunciphiseni izindleko zokudla ukuze kuvikelwe imindeni empintshene ngenxa yokwentuleka kokudla, kuthuthukiswe imikhakha eqasha abantu ukuze kwandiswe amathuba emisebenzi avela ekuhwebeni, kanye nokuqondiswa kabusha inqubomgomo yokutshalwa kwezimali zakwamanye amazwe emisebenzini enezixhumanisi eziqinile zasendaweni kanye namandla amakhulu okudala amathuba emisebenzi.

AMATEMU ASEMQOKA

Ukukhululwa kohwebo; ukuncishiswa kobubha; iNingizimu Afrika; ukuhlolwa kwemingcele ye-ARDL; izinga eliphezulu lobubha; izinga eliphansi lobubha; ukwentuleka kokudla; ukwenyuka kwentengo; ukungasebenzi; utshalomali lwangaphandle ngqo; ukukhula kwe-GDP ngomuntu ngamunye.

DEDICATION

To my parents Frans and Martha Thlaku, who taught me the value of perseverance and education, and to my daughter Bohlale, who reminds me daily why I must keep reaching higher. This achievement belongs as much to you as it does to me.

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CHAPTER 1

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1. Introduction

Trade liberalisation has been a central feature of South Africa's post-apartheid economic reform agenda, aimed at improving competitiveness, integrating domestic production into global markets, and supporting long-run growth (Edwards & Lawrence, 2006; Vacu & Maluleke, 2024). However, these reforms have unfolded within an economy characterised by structural inequality, persistently high unemployment, spatially uneven development, and a large informal sector. All these factors shape how gains from openness are distributed across households and regions (Leibbrandt, Woolard & Bhorat, 2000; Bhorat & Kanbur, 2006). As a result, trade reform cannot be evaluated solely through aggregate growth or export performance. Its poverty implications depend on transmission mechanisms such as labour market absorption, price dynamics, sectoral restructuring, and the extent to which households can participate in new opportunities created by openness (Winters, McCulloch & McKay, 2004; Goldberg & Pavcnik, 2007a).

Nevertheless, despite expectations that lower trade barriers would stimulate export expansion and job creation, poverty remains widespread, and inequality continues to constrain inclusive welfare gains (Stats SA, 2022; World Bank, 2023). This tension between South Africa's liberalised trade framework and persistent deprivation motivates the present study. The core question is not whether trade affects the economy in general, but how trade liberalisation interacts with key socio-economic constraints, particularly inequality, unemployment, and spatial disparities, to influence poverty dynamics over time. Accordingly, this study examines the relationship between trade liberalisation and poverty reduction in South Africa, recognising that such outcomes may differ across poverty thresholds and over different adjustment horizons.

The broader empirical literature supports the view that trade liberalisation can be welfare enhancing, yet it often generates heterogeneous distributional outcomes across regions, sectors, and skill groups (Winters et al., 2004; Goldberg & Pavcnik, 2007a). For example, evidence from India indicates that local labour market and industrial structures can condition poverty responses to tariff reductions, producing uneven outcomes across districts (Topalova, 2010). Similarly, South African evidence suggests that trade-related gains have been stronger in some export-oriented activities and urban centres than in regions and sectors exposed to import competition (Edwards & Behar, 2006; Guei, Mugano & Le Roux, 2017). These

considerations highlight the importance of examining South Africa's case using a dynamic approach that captures both short-run adjustment and long-run equilibrium relationships.

1.2. Background to the Study

Historically, South Africa pursued a highly protective trade regime during apartheid, relying on import substitution industrialisation supported by tariffs, quantitative restrictions, and selective state support to shield domestic industries (Bell, 1997). While these measures supported certain industrial capabilities, they also contributed to inefficiencies and limited international competitiveness, reinforcing an inward oriented growth path. During the 1970s and 1980s, some gradual reforms were introduced—including tariff rationalisation and selective liberalisation—yet these changes occurred within a broader context of protectionism and international isolation (Holden, 1992; Edwards, 2005). Crucially, poverty and inequality remained structurally entrenched during this period, as apartheid labour markets and spatial policies excluded most Black South Africans from formal economic participation and asset accumulation. Such measures limited the poverty reducing potential of any partial trade reforms (Leibbrandt et al., 2000; Bhorat & Kanbur, 2006).

Following the democratic transition in 1994, South Africa adopted a more outward oriented trade policy stance, reintegrating into the global economy and aligning key aspects of trade policy with multilateral commitments (World Bank, 2018; Edwards, 2005). Tariff reductions and the removal of quantitative restrictions increased exposure to international competition, encouraging restructuring in some sectors and supporting productivity improvements in certain export-oriented industries (Edwards, 2005; Edwards & Alves, 2006). Yet the extent to which these changes translated into broad based poverty reduction has remained contested. This is in part because the economy's underlying socio-economic constraints, unemployment persistence, unequal access to skills and assets, and spatially concentrated opportunity, limit how quickly trade-related gains can be transmitted to poor households (Bhorat, Naidoo & Pillay, 2016; Tregenna, 2012).

In theory, trade liberalisation can reduce poverty through growth, employment, technology diffusion, and investment channels (Rodrik, 2006; Krugman & Obstfeld, 2009). However, these mechanisms are not automatic. Outcomes depend on whether labour can reallocate into expanding sectors, whether prices remain stable for basic goods, and whether investment generates linkages into labour absorbing activities (Winters et al., 2004; Goldberg & Pavcnik, 2007a). South Africa's experience reflects this complexity. While some evidence indicates improved export performance and competitiveness after liberalisation, other work highlights uneven outcomes across sectors and demographic groups, including job displacement pressures in lower skilled activities and persistent inequality (Edwards & Behar, 2006;

Gourdon & Malouche, 2020). In short, trade liberalisation may support poverty reduction, but its effectiveness is shaped by the structure of the economy and the inclusiveness of adjustment pathways.

Against this background, the present study evaluates the trade liberalisation–poverty nexus in South Africa using annual time series data for the period 1993–2024, employing three poverty measures: the upper bound poverty line (**POV1**), the lower bound poverty line (**POV2**) and the food poverty line (**POV3**). This design allows the study to distinguish between broader poverty dynamics and extreme deprivation, recognising that the poorest households may respond differently to macroeconomic change. In doing so, the study positions trade liberalisation within a broader socio-economic setting, incorporating price dynamics, unemployment, growth, and investment channels. This provides a more coherent and policy relevant assessment of whether trade reforms have supported poverty alleviation in South Africa over time.

1.3. Problem Statement

South Africa has pursued trade liberalisation as a central component of its economic policy framework since the early 1990s, following decades of inward-looking import substitution strategies. Extensive tariff reductions, the removal of quantitative restrictions, and alignment with multilateral trade commitments were implemented with the expectation that increased openness would stimulate economic growth, enhance competitiveness, and ultimately reduce poverty (Edwards, 2005; Bell, 1997). Although South Africa has pursued trade liberalisation for more than three decades, poverty continues to persist, highlighting a critical gap between expected theoretical outcomes and actual poverty dynamics. Despite sustained integration into the global economy, a substantial proportion of the population remains unable to meet basic living standards (Stats SA, 2017).

This persistence of poverty alongside prolonged trade liberalisation reveals a critical policy and empirical contradiction. While trade reforms were designed to promote growth and welfare, their poverty reducing effects have not been uniform and appear to be mediated by complementary macroeconomic conditions such as employment dynamics, price stability, foreign investment, and income growth. In South Africa, rising unemployment, inflationary pressures, and structural inequalities may have constrained the transmission of trade-related gains to poor households. Consequently, aggregate trade expansion does not necessarily translate into improvements in poverty outcomes, particularly for the most vulnerable groups.

Although previous studies have examined the trade–poverty nexus in South Africa and other developing economies, the existing evidence remains fragmented and inconclusive, with

results varying depending on the poverty measure employed and the macroeconomic context considered. Consequently, there is a clear empirical gap regarding how, and through which channels, trade liberalisation has influenced poverty in South Africa over time, across different poverty thresholds, and in interaction with key macroeconomic variables. Addressing this gap is essential for evaluating whether trade liberalisation has fulfilled its intended developmental role or whether its effectiveness has been undermined by structural and macroeconomic constraints. This study seeks to fill this gap by providing an empirical assessment of the short-run and long-run effects of trade liberalisation on poverty in South Africa.

1.4. Research Objectives

The primary objective of this study is to empirically examine the impact of trade liberalisation on poverty in South Africa over the period 1993–2024.

The specific objectives are to:

- Determine whether trade liberalisation has a statistically significant impact on poverty in South Africa in the short run and the long run.
- Examine whether the impact of trade liberalisation on poverty differs across alternative poverty measures, i.e.: the upper bound, lower bound and food poverty line.
- Assess the role of complementary macroeconomic variables—namely foreign direct investment, inflation, unemployment, and GDP per capita growth—in shaping poverty outcomes in South Africa.

1.5. Research Hypotheses

The hypotheses tested in this study are as follows: include the null hypothesis

- H_0 : Trade liberalisation (**TRADE**) has no statistically significant impact on poverty in South Africa in the short run or the long run.
- H_1 : Trade liberalisation (**TRADE**) has statistically significant impact on poverty in South Africa in the short run or the long run.
- H_0 : Foreign direct investment (**FDI**), Unemployment (**UNEMPRATE**), Inflation (**INFLRATE**) and GDP per capita (**GDPPCG**) have no statistically significant impact on poverty in South Africa in the short run or long run.
- H_1 : Foreign direct investment (**FDI**), Unemployment (**UNEMPRATE**), Inflation (**INFLRATE**) and GDP per capita (**GDPPCG**) have statistically significant impact on poverty in South Africa in the short run or long run

1.6. Justification of the Study

South Africa occupies a strategically important position within the African continent and among emerging market economies. Despite this status, poverty remains persistent, undermining inclusive growth and long-term socio-economic development. Trade liberalisation has been pursued as a central policy instrument to enhance competitiveness, stimulate growth, and integrate South Africa into the global economy. However, uncertainty remains regarding the extent to which these reforms have translated into sustained poverty reduction, particularly across different poverty thresholds and socio-economic groups.

Empirical studies examining the relationship between trade liberalisation and poverty have produced mixed findings. Some studies report poverty-reducing effects of trade openness, arguing that liberalisation promotes growth, employment creation, and income gains that benefit poor households (Ezzat, 2018; Anetor, Esho & Verhoef, 2020; Mbah, Ojeaga & Udeh, 2022). In contrast, other studies find that trade liberalisation may aggravate or have negligible effects on poverty, particularly where labour markets are rigid, industries are exposed to import competition, or adjustment mechanisms are weak (Onakoya, Johnson & Ogundajo, 2019; Fauzel, 2022). These divergent findings suggest that the poverty impacts of trade liberalisation are highly context-specific and depend on complementary macroeconomic and structural conditions.

While several studies have investigated the trade–poverty relationship in Sub-Saharan Africa, much of the existing literature relies on cross-country analyses or single poverty indicators, limiting its relevance for country-specific policy design. Moreover, relatively few studies explicitly account for multiple dimensions of poverty alongside key macroeconomic variables that condition poverty outcomes. The current study seeks to address this gap by focusing specifically on South Africa and incorporating multiple poverty measures. Such include the upper-bound poverty line, lower-bound poverty line and food poverty line, within a unified empirical framework. By doing so, the current study provides a more nuanced assessment of how trade liberalisation affects both moderate and extreme forms of poverty over time.

The study period 1993–2024 captures South Africa’s post-apartheid trade liberalisation phase and its associated socio-economic adjustments. Understanding poverty dynamics over this period is essential for evaluating whether trade liberalisation has achieved its intended developmental objectives or whether its effectiveness has been constrained by broader macroeconomic conditions. The findings are therefore expected to contribute to the academic debate on trade and poverty while providing evidence-based insights to inform policy formulation aimed at promoting more inclusive growth in South Africa.

1.7. Outline of the Study

The study is divided into six chapters. Chapter 1 covers the background and context of trade liberalisation and poverty. Chapter 2 discusses trade liberalisation and poverty in SA. Chapter 3 includes a theoretical and empirical literature review. Chapter 4 examines the methodology and techniques, which include model specification, data sources, and variable definitions. Chapter 5 covers the estimation and analysis of results. Finally, Chapter 6 provides concluding remarks, policy recommendations, and study limitations.

CHAPTER 2

TRADE LIBERALISATION AND POVERTY IN SOUTH AFRICA

2.1. Introduction

This chapter covers information on the historical context of SA's trade liberalisation and poverty. The chapter is divided into four main sections. The first section provides a historical overview of trade policy evolution and further discusses the interventions implemented in SA. The second section provides the South African exports and imports performance, including trends over time. The third section provides an overview of trends in poverty, as well as the causes of poverty, while the final section discusses interventions to eradicate poverty in SA.

Beyond providing historical and descriptive context, this chapter adopts a theory-driven analytical approach to examine South Africa's trade liberalisation experience. In particular, the discussion is grounded in the theories of comparative advantage, the Stolper–Samuelson factor price effects, and structural transformation. These frameworks are used to explain how trade policy reforms have restructured production patterns, altered labour demand, and shaped income distribution, thereby influencing poverty outcomes over time (Heckscher & Ohlin, 1933; Stolper & Samuelson, 1941; McMillan & Rodrik, 2011). This analytical framing establishes a direct conceptual link between trade policy evolution and poverty dynamics and provides a foundation for the empirical analysis undertaken in subsequent chapters.

2.2. Overview of South Africa's Trade Policy Evolution and Trade-Related Interventions

2.2.1. Colonial and Early Trade Policies (1652-1948)

SA's involvement in international trade stretches back to the mid-1600s. Trade in South Africa was initially controlled by the Dutch East India Company which founded the Cape Colony in 1652 as a supply station, restricting all trade and production (Ross, 1999). British rule during the early 1800s brought further global integration of markets but policies of the trade were most to benefit the colonial power, not local economic development (Giliomee, 2004). For the first few centuries, SA exported agricultural products and imported almost everything that could not be produced locally.

The discovery of diamonds and gold in the late nineteenth century fundamentally altered South Africa's economic structure and trade orientation. These mineral discoveries transformed the country into a major exporter of primary commodities, while imports expanded to include mining machinery, capital goods, construction materials and consumer products

necessary to support large-scale extractive activity and urban development (Feinstein, 2005; Innes, 1984).

2.2.2. Apartheid Trade Policies (1948-1994)

During apartheid, South Africa adopted an inward-looking industrial strategy characterised by import substitution industrialisation (ISI). Domestic industries were supported through high tariff protection, strict import controls and extensive state intervention (Fine & Rustonjee, 2018). The state also played a central role in the economy through the expansion of state-owned enterprises (SOEs) in strategic sectors such as steel, energy and transport. These policies were aimed at reducing dependence on foreign suppliers and supporting industrial self-sufficiency (Fine & Rustonjee, 2018; Hirsch, 2005).

From the mid-1980s, international sanctions and trade embargoes imposed in opposition to apartheid policies severely constrained South Africa's trade relations. These external pressures, combined with declining economic performance and rising balance-of-payments constraints, contributed to a gradual shift towards trade policy reform in the late apartheid period, setting the stage for more extensive liberalisation after 1994 (Hirsch, 2005).

2.2.3. Post-1994 Trade Liberalisation

The end of apartheid ushered in a fresh chapter in the market policy of South Africa. The new government put trade liberalisation at the core of the wide-ranging economic reform strategy to pursue global competitiveness, foreign investment, and growth stimulation (Edwards, 2005). Thus, South Africa became a member of the World Trade Organization (WTO) in 1995 and pledged to remove tariffs, lift non-tariff barriers, and adjust its trade policy to meet international standards (World Bank, 2018).

Trade liberalisation can take different forms, including the reduction of tariff and non-tariff barriers to trade. According to the WTO trade liberalisation within the multilateral system requires governments to progressively remove or discipline trade barriers in accordance with agreed rules (WTO, 1994). A key milestone in this process was the Uruguay Round of the General Agreement on Tariffs and Trade, concluded under the Marrakech Agreement in 1994 and signed by South Africa alongside other WTO members. Trade liberalisation is generally expected to promote economic growth and improve living standards. However, its benefits depend critically on countries' ability to comply with non-tariff measures related to intellectual property rights, sanitary and phytosanitary standards, labour regulations and environmental requirements, which can significantly influence export performance and market access (WTO, 2012).

In parallel with trade liberalisation, the South African government has implemented programmes designed to reduce poverty. For example, the Reconstruction and Development Programme (RDP) was the initial policy that was implemented by the democratic government. This policy's main objective was to alleviate poverty in the nation. The following target areas were among the RDP's key concerns as it attempted to address historical injustices: boosting the availability of jobs, land, water, healthcare, and educational opportunities. However, the biggest critique of the RDP is that, at its core, it was a strategy for significant infrastructure investment over economic expansion (Aliber, 2003). Hence, when economic growth is given less focus, job creation suffers, which would result in the policy having minimal effect on poverty. At the start of 1996, the RDP was thus disbanded (The Presidency, 2005c).

Subsequently, the Growth, Employment, and Redistribution (GEAR) strategy was launched in 1996 with the intent to hasten SA's economic progress. The primary objective of GEAR was to address unemployment through economic expansion (The Presidency, 2005b). Despite its emphasis on economic growth (employment and poverty) however, the GEAR initiative fell short of its intended goals (Mather & Adelzadeh, 1998). Critics of the strategy claimed that GEAR was mostly ineffectual, especially concerning poverty, as it minimally addressed unemployment levels. GEAR was projected to expand formal sector employment by 1.3 million jobs over five years; however, it resulted in a net job loss of nearly 800,000 workers from 1996 to 2000 (Mather & Adelzadeh, 1998). Furthermore, unemployment growth was particularly significant in the year 2000. For example, despite the country's favourable economic expansion, reductions in employment in the formal sector surged significantly throughout this period (Changunda 2006).

In 2005, the Accelerated and Shared Growth Initiative for South Africa (ASGISA) was launched to serve as a catalyst for the country's fast and equitable growth. ASGISA sought to promote policy implementation and economic growth by tackling difficulties, for example, insufficient human resources to carry out policy, a skills gap, corruption, a lack of funds, ineffective institutional coordination, and entrance hurdles (Changunda, 2006). Additional objectives outlined in ASGISA included reducing poverty by 2010 and unemployment by 2014, primarily through promoting small business growth and stimulating investment (The Presidency, 2005a). ASGISA was intended to create a 6% economic growth rate, which was anticipated to react through a trickle-down effect on the nation's poverty (Aliber, 2003).

According to Ramnath (2015b), a review of all three post-apartheid alleviation initiatives shows that they did not do much to tackle the three main causes of poverty and unemployment. All

three approaches proved ineffective at producing jobs and decreasing poverty. GEAR and ASGISA were also unable to eliminate poverty and distribute economic growth gains to the poor. Economic expansion is essential to reducing poverty because it fosters job creation. However, any growth in the economy requires absorbing labour, which the GEAR and ASGISA policies failed to do (Mather & Adelzadeh, 1998).

To address persistent socio-economic challenges, the National Development Plan (NDP) was introduced in 2011, targeting poverty eradication and unemployment reduction by 2030. A draft of the NDP was produced in 2011, and its goals were to create 5 million jobs between 2010 and 2020, and to bring down unemployment and poverty to a manageable level by 2030 (World Bank, 2015). The NDP promoted labour demand policies and incentives to expand employment, especially for workers with low skills and the youth. The strategy also pledged to create more jobs by allowing a favourable environment for growth and enhancing labour absorption in the economy (Ramnath, 2015a).

The NDP further confirmed that by 2030, the economy ought to have generated the funds required to finance investments in human and physical capital and achieve almost full employment (NPC, 2011). To achieve long-term economic growth and eliminate poverty in the upcoming years, the intention was to refocus the country's economy toward decreased consumption and increased investment (Zarenda, 2013).

Because of its obligations under the WTO, South Africa's average tariffs declined from greater than 28% in the early 1990s to some 7% by the 2000s. Parallel to these tariff reforms were the policy measures designed to dismantle industrial subsidies and deregulating other key sectors (Bhorat, Cassim & Hirsch, 2014). Although trade liberalisation efforts began as early as the 1980s, they gained momentum in the first half of the 1990s, when important reforms of trade policy were undertaken. During this period, SA pursued two approaches to trade policy, namely unilateral and multilateral trade liberalisation (Cassim, Onyango & Van Seventer, 2001; Kusi, 2002).

The Department of Trade, Industry, and Competition (**the dtic**) is actively engaged in bilateral and regional negotiations free trade agreements with the European Union and EFTA and a preferential trade agreement (PTA) with MERCOSUR. South Africa's partners from the Southern African Customs Union (SACU) are the general associates in these negotiations, since all trade agreements have been negotiated as a coalition since 2004. The **dtic** has also contributed to the India-Brazil-South Africa (IBSA) Initiative, particularly in PTAs with MERCOSUR and India. Further, **the dtic** has taken the lead in driving engagement to

implement the Partnership for Growth and Development (PGD) with China, which aims at enhancing value-added South African exports while creating an additional inward investment into beneficiation projects. Trade and investment relations of South Africa with major developed countries in the world, for example, the EU and the USA, have been strengthened even more (**the dtic**, 2025). Kusi (2002) notes that, in the context of the Uruguay Round, SA proposed a five-year gradual tariff reduction starting in 1995, in the context of global trade liberalisation. The proposal was intended to reduce the number of tariff lines, converting all quantitative restrictions on agricultural imports into ad valorem tariffs, eliminating all bound agricultural tariffs and increasing the number of bound industrial products.

From a comparative advantage perspective, South Africa's post-1994 trade liberalisation strategy aimed to reallocate resources toward sectors in which the economy was relatively more efficient and competitive. In theory, reduced trade barriers should have encouraged expansion in export-oriented industries while contracting inefficient sectors previously protected under import substitution policies (Heckscher & Ohlin, 1933; Edwards, 2005). However, decades of protection had created an industrial structure misaligned with South Africa's underlying comparative advantage. As trade barriers were dismantled, several labour-intensive manufacturing sectors struggled to compete with imports, resulting in job losses that limited the poverty-reducing effects anticipated from trade liberalisation (Edwards & Lawrence, 2008; Bhorat, Cassim & Hirsch, 2014).

Thus, while trade liberalisation in SA has had a significant impact on economic growth it has not necessarily achieved all the objectives outlined in key government strategies. These encompass the National Development Plan (NDP), the New Growth Path (NGP), the Trade Policy and Strategy Framework (SPF), and the Industrial Policy Action Plan (IPAP). The 2012 National Development Plan (NDP) proposed a tripartite free-trade area, which has gained considerable technical momentum; however, it needs to be tackled politically. The NGP emphasises the need for trade policies to promote exports, remove unfair competition from domestic producers and help new activities to compete. SA's trade policy should be more targeted, identify international markets with export potential, and use trade agreements and facilitation to achieve these objectives. It must continue to be evidence-based and practical in pursuing basic socio-economic goals such as equal employment and inclusive and equitable growth, without giving in to special interests or ignoring urgent financial concerns (Khumalo, 2019). An effective trade strategy requires effective customs enforcement, which depends on better allocation of resources and legislation, as well as aggressive action to fight illegal imports and smuggling (South African Government, 2010).

Despite these efforts, SA needs much stronger export efforts. SA's value-added export basket is relatively small, and its exports are overwhelmingly commodity-intensive, so more support should be given to existing leading and dynamic exporters, especially Black-Owned as well as new entrants. Historically, SA has also suffered from the fact that its export markets are 'deep-water' destinations. Despite such infrastructure and other challenges, the African continent and its sub-regions offer huge opportunities for the domestic economy. An investment-led approach to regional industrial integration in our trade, investment and export efforts across the continent signals the commitment of SA to promote the full industrialisation of Africa and to break the regional resource dependence (**the dtic**, 2018).

Nevertheless, trade liberalisation has not fundamentally transformed South Africa's export profile. As noted by the Industrial Development Corporation (IDC) (2011), trade liberalisation in the country has not succeeded in making the fundamental shifts necessary to significantly change its export profile. SA's stagnant export profile and volatile exchange rate are two characteristics of growth that hamper the economy and may contribute to the country's inability to create jobs (Sako, Maliaga & Obinyeluaku, 2015). The pace and pattern of structural change in any economy is crucial for the benefits it can derive from trade liberalisation (McMillan & Rodrik, 2011). Moreover, according to Weiss (2005), trade liberalisation alone does not lead to long-term economic growth and employment if it is not accompanied by structural improvement. The level of prosperity achieved by trade liberalisation therefore depends on the country's trade strategy, trade volume and trade items.

The limited transformation of South Africa's export profile highlights the role of structural transformation in mediating the trade–poverty relationship. While openness increases trade flows, sustained poverty reduction requires labour to shift from low-productivity activities into higher-productivity, labour-absorbing sectors (McMillan & Rodrik, 2011). In South Africa, trade liberalisation has coincided with declining employment in agriculture, mining and labour-intensive manufacturing, without a corresponding expansion of labour-absorbing industrial activities. This pattern reflects incomplete or premature structural transformation, where productivity gains are not accompanied by broad-based employment growth, thereby constraining the poverty-reducing potential of trade openness (Weiss, 2005; IDC, 2011).

SA has implemented various trade-related measures and interventions. Among these, the WTO might be the most powerful external force driving trade changes. For SA, the Uruguay Round of the GATT's completion had two significant ramifications. First, according to Altman (1994), the limitations on the use of subsidies were reinforced. As a result, the main export assistance programme in SA, the GEIS, was phased out. Second, the nation pledged to carry

out the reduction and simplification of its tariff rates, together with the removal of all quantitative import constraints, just like any other GATT signatory. The country's average tariff decreased from over 13% in 1993 to slightly more than 5% in 2001, as **Error! Reference source not found.** illustrates. During this time, SA also made great strides toward simplifying its tariff system, lowering tariff peaks, and decreasing tariff spread (Edwards, 2005). Significant progress was also made in simplifying the tariff system, lowering tariff peaks, and reducing the spread of tariffs.

Collectively, the various changes to policy and initiatives have expanded the nation's economy and trade relations, which is an argument that has been raised by previous studies (Malefane & Odhiambo, 2018; South African Reserve Bank (SARB), 2000). Moreover, amendments in trade policy, notably a great drop in tariff protection led to a substantial rise in exports of non-commodities, particularly between 1992 and 2000. When combined, these variables significantly decreased the anti-export bias, since exporting became more profitable than selling to the previously protected local market when tariffs were cut (Edwards & Lawrence, 2008).

As regards the level of protection in SA over the last four decades, it can be concluded that this has decreased substantially from 13.4% in 1988 to 5.4% in 2019 based on average weighted tariffs for all products (see Figure 2.1). In addition, the level of protection based on average weighted tariffs for upper-middle-income countries has fallen significantly, from almost 14% in 1988 to 3.7% in 2017. For the rest of the world, it has fallen from 4.8% to 2.6% (World Bank, 2023).

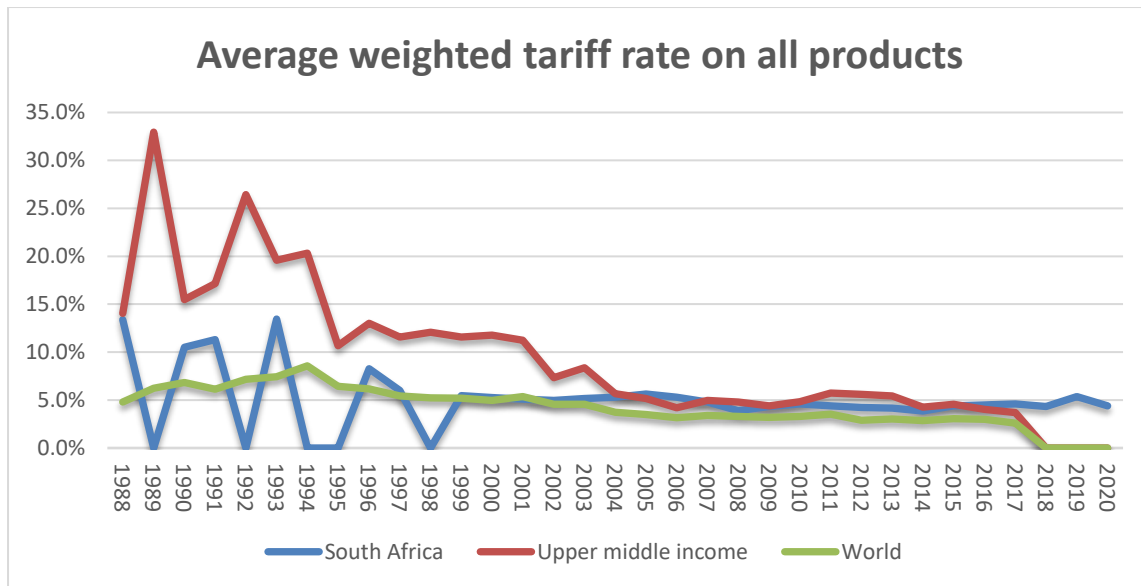


Figure 2.1: Average weighted tariff rate on all products

Source: World Bank (2023)

2.3. South Africa's Import and Export Performance

Trade liberalisation, reduced tariffs, reduced import quota and other trade obstacles, have greatly affected the dynamics of South African exports and imports over the last six decades. Analysing the data provided with historical trade policies suggests how liberalisation affected trade performance. Table 2.1 provides a snapshot of the average growth rates of the performance of imports and exports during the period preceding trade liberalisation (1961–1990) and post-trade liberalisation (1991–2021).

Table 2.1: SA's export and import performance (1960–2021)

Periods	Exports growth	Import growth
1961–1970	4.5%	7.8%
1971–1980	0.9%	1.9%
1981–1990	1.4%	0.3%
1991–2000	5.3%	6.0%
2001–2010	2.2%	6.4%
2011–2021	1.1%	1.6%

Source: World Bank (2023).

As illustrated in Table 2.1, during the period before trade liberalisation (1961 to 1970), imports grew significantly compared with exports, causing a trade imbalance. SA imports increased by 7.8% and exports by 4.5%. This increase in imports was mainly due to SA after the strategy of import replacement industrialisation (ISI), which demanded the protection of domestic industries through high tariffs and import control (Bell & Madula, 2002). While exports

experienced moderate development, significant import growth indicated dependence on foreign machinery and raw materials, causing a trade deficit. However, economic restrictions related to apartheid began to create obstacles to trade (Jonsson & Subramanian, 2001). SA's pursuit of the ISI led to a robust GDP growth of 4.5% (World Bank, 2023).

However, in the subsequent decade (1971 to 1980), a decrease was observed in import growth to 1.9% and export growth to 0.9%. In the 1970s, global restrictions intensified due to apartheid, which banned access to SA's international markets (Cassim, 2006). Additionally, the 1970s oil crisis increased economic instability (reduced GDP growth by 3.2%) and global trade. The reach of foreign goods became more constrained as import growth slowed down. From 1981 to 1990, a slight improvement was observed in export growth to 1.4%, and a slight decrease was seen in import growth to 0.3%. South Africa faced severe economic stagnation (GDP growth declined to 1.5%) during the 1980s, with increased sanctions and internal political instability due to minimum trade growth (Edwards & Lawrence, 2006). Limited import growth reflects restrictive exchange policies, which disrupted the country's ability to source input from abroad.

The reduction in imports between 1970 and 1990 can be attributed to various factors. First, this decrease corresponds to a drop in investment, which was linked to stricter monetary and fiscal policies in reaction to the 1970s and 1980s balance of payments crises (Edwards & Lawrence, 2006). Following the Soweto riots in 1972, import surcharges were introduced from 1977 to 1979 in response to the end of capital inflows. Imports also dropped from 1982 to 1983, in response to a fall in the price of gold, and finally in 1985 in response to the crisis of sovereign debt initiated by President Botha's 'Rubicon Speech' (Cassim, Lawrence & Van Seenter, 2009). Furthermore, in the latter part of the 1980s, import barriers increased in response to the application of import surcharges and the offering of tariff protection to firms battling during the economic slump (Holden, 1992; Bell, 1990).

After apartheid in 1994, SA adopted trade liberalisation by reducing tariffs and integrating them into the global economy (Edwards, 2005). The country became a member of the WTO in 1995, which facilitated an increase in trade flows. From 1991 to 2000, there was a major increase in import and export growth of 6.0% and 5.3%, respectively. Research indicates that in this period GDP grew to 4.5%, benefiting from direct foreign investment and better market access (Jonsson & Subramanian, 2001). Additionally, one of the reasons for the increase in import growth around the 1990s and 2000s is that the rand declined during this period, which caused import producer prices to decline, increasing import demand (Edwards & Lawrence, 2006). Export efficiencies were based on the manufacturing of equipment, chemicals, steel and iron

automobile components and supplies, nonferrous metals, and food products (Bhorat, Cassim & Hirsch, 2014). Edwards and Lawrence (2006a) and SARB (2014) corroborate this claim, showing that South Africa's export structure historically favoured capital-intensive primary and manufactured goods, reflecting both its natural-resource endowment and past industrial policy choices. However, the trade-protection regime was particularly detrimental to exports of non-commodity manufactured goods, as high and opaque tariffs raised input costs and distorted production incentives. Trade liberalisation in the 1990s enhanced export performance by lowering intermediate-input prices and reducing the relative profitability of domestic-market sales, thereby strengthening incentives for firms to orient production toward export markets.

From 2001 to 2011, import growth increased to 6.4% and export growth decreased to 2.2%. During this period, South Africa deepened its integration into the global trade network, with China emerging as a major trading partner (Thurlow, 2007a). However, the 2008 global financial crisis negatively affected demand for exports, slowing trade growth. Despite this, the expansion of imports continued, leading to an increase in consumer and industrial demand for foreign goods (Edwards & Lawrence, 2006).

Finally, the period from 2011 to 2021 continued to experience subdued export growth, with an average of 1.1% and import growth of 1.6%. In the recent decade, trade growth has remained dull due to growing protectionism, domestic economic challenges, and factors such as the COVID-19 pandemic (Erero & Makananisa, 2021). In 2020, South Africa's exports and imports declined by 14% and 21%, respectively, compared with 2019, with a decline of 7% (World Bank, 2021). Economic growth also slowed to an average of 1.5% per year, with a significant contraction of 7.0% in 2020 due to COVID-19. SA's trade and GDP growth have been closely linked, with a period of liberalisation and global integration; usually, both GDP and trade are promoted. In contrast, the global economic recession and domestic challenges have reduced growth in these areas.

2.4. Overview of Poverty in South Africa

Apartheid and colonialism have a distinctive history in SA that sets it apart from other nations (World Bank, 2014). The prevalence of poverty in the nation is a result of this discriminatory past (Aliber, 2003). Beginning in the early 17th century, European colonisation had an impact on SA (Ross, 1999). In parallel with the British migrants moving into other parts of SA, the European settlement started to flourish and spread (Aliber, 2003). In 1948, when the National Party (the ruling party at the time) passed laws that firmly enshrined racial inequality, the White

settlers gained influence over other races (Potts, 2012). These laws attempted to regulate every aspect of a South African's social life. The four population groups (Black, Coloured, Indian, and White) had different services and opportunities from the apartheid administration. Black people, together with Coloureds and Indians, were provided with subpar education throughout the apartheid era. As a result, children of White parents had access to higher education under apartheid and got a superior level of instruction than children of other races (Thomson & Robertson, 2012). The apartheid regime also severely restricted Black mobility in the past, keeping most Blacks in isolation in rural regions (World Bank, 2014). The prevalence and incidence of poverty today are largely a result of some of these historical events (Thomson & Robertson, 2012).

Despite the lengthy history of poverty research in SA, an emphasis on inequality has of late arisen in academic and policy discourses (Francis & Webster, 2019). To examine the nature and causes of poverty among European settlers, the Carnegie Inquiry was established in 1932, marking the beginning of the first comprehensive study of poverty. Moreover, the Theron Commission, also known as the Commission of Inquiry into Matters Relating to the Coloured Population Group, was established in SA in 1973. Its mandate was to investigate the social and economic status of the Coloured population; a term used during the apartheid era to classify mixed-race individuals. Carnegie Two, a second poverty commission, was founded in the 1980s, with a main concentration on poverty in the predominantly Black community (Wilson & Ramphela 1994).

Poverty has been a longstanding issue in South African society. The minority apartheid leadership seemed to care little about poverty, particularly among the majority Black populace. As a result, SA never had a system in place for the government to track and measure poverty (Deng & Tjønneland, 1996). The initial definitions of poverty in SA were highly individualised and centred on White people. The first Carnegie Commission's definition of "a decent standard of living for White men" in the early 1930s was largely based on individual personal assessments of what that term meant in relation to varying traditional standards in various regions of SA (Øyen, Miller & Samad, 1996).

According to Deng and Tjønneland (1996), the historical difficulties of a lack of credible data regarding South Africans who are poor and where they live have been addressed. The new administration has focused on creating a new infrastructure that can track and monitor poverty. Additionally, several reputable research institutions have conducted studies on poverty, including the Human Sciences Research Council (HSRC), the Bureau of Market Research (BMR), and the Southern Africa Labour and Development Research Unit (SALDRU) at the

University of Cape Town. There were two significant socioeconomic surveys conducted in 1993 (Deng & Tjønneland, 1996). The Central Statistical Services (CSS) conducted the October Household Surveys (OHS), while SALDRU handled the Project for Statistics on Living Standards and Development (PSLSD).

The PSLSD survey is likely the largest socioeconomic study ever conducted in SA. It was designed with the goal of giving thorough coverage of a wide range of topics. In other words, this was a comprehensive questionnaire designed to collect information on many elements of living conditions. Demographics, household services, household spending, educational status and spending, remittances and marital maintenance, access to and usage of land, employment and income, health status and spending, and anthropometry were among the topics covered (Deng & Tjønneland, 1996). Kgadima and Ledwaba (2003) conducted a further study on "The Role of Social Grants in Alleviating Poverty" in Mankweng Township (Limpopo Province, SA). Respondents characterised poverty as the inability to maintain oneself, a low standard of life, unemployment, a lack of food, and a lack of a basic disposable income.

2.4.1. Poverty Trends and Other Relevant Indicators

SA started a new era of political development and trade policy with the end of apartheid in the early 1990s and the first democratic elections in 1994, but it also left the country with massive inequalities among race groups and widespread and profound poverty. Trade liberalisation was expected to drive economic growth and create jobs, however, while industries such as finance, telecommunication and high-skilled manufacturing befitted, others such as textiles and agriculture suffered due to global competitiveness (Edwards & Lawrence, 2008).

In certain ways, SA has achieved considerable strides in poverty reduction. The widespread adoption of a programme for social support through social grants, together with a strongly redistributive fiscal policy, constitutes one of the policy interventions in this direction. Grants are given to those who care for children under the age of 18 and the disabled, including the elderly, yet there is no provision for those of working age (Francis & Webster, 2019). The lack of grants for those of working age means that many remained vulnerable despite economic growth (World Bank, 2014). In 2014, 54% of health and educational spending and over 70% of social grant spending went to half of the poverty-stricken population. The findings demonstrate that between 1994 and 2011, the rate of severe hunger decreased by 50%, from 34.4% to 16.5%, thanks to social assistance and the provision of free basic utilities like electricity and water. These measures also increased the daily wages of approximately 3.6 million South Africans above US\$2.50 (purchasing power parity, or PPP) (World Bank, 2014).

Despite these efforts, SA's poverty rate still increased in 2015, showing that social spending has limitations in compensating for structural unemployment and market-driven inequalities (StatsSA, 2022). Although poverty again declined between 2006 and 2011, only 54% of the population of the nation lived below the upper-bound poverty level (UBPL), which was set at R992 per person per month in 2015. According to 2022 pricing, the most recent upper-bound poverty level is R1 417 per person per month (StatsSA, 2022). Although trade liberalisation led to cheaper imports, it exposed domestic producers to price pressures, leading to job losses in some sectors (e.g., mining and manufacturing) (Edwards, 2005). This reduced the purchasing power of many South African people, especially those without stable employment. The Living Condition Survey 2014–15 from StatsSA indicated that there were 35.1 million adults (those over the age of 18) in the country in 2015. When the poverty headcount was broken down by sex using the UBPL, the headcounts for adult males and females were 53.7% and 57.2%, respectively. Irrespective of the chosen poverty line, adult females experienced a greater degree of poverty than males. This can be due to labour inequalities such as women being overrepresented in low-wage, informal and part-time employment sectors. Furthermore, trade liberalisation has shifted the economy to be more skill-intensive therefore benefitting high-skilled jobs which men mostly dominate (Bhorat, van der Westhuizen, Jacobs, 2014; Rodrik, 2018). Moreover, unpaid care work and household responsibilities and historically older generations of women have lower education levels, therefore limiting their employment opportunities (Francis & Webster, 2019; Edwards & Lawrence, 2008).

When Finn and Leibbrandt (2017) compared current poverty figures to those from previous years, they discovered that there is widespread agreement that money-metric poverty has decreased in SA. According to their study, access to a state social grant is the primary reason for people leaving poverty, which represents 23% of people who, according to the National Income Dynamics Survey, were able to escape poverty.

Table 2:2: Inflation-adjusted Poverty Lines (Per Person Per Month in Rands)

Poverty Lines	Statistics South Africa (2012)	Statistics South Africa (2015)	Statistics South Africa (2019)
Upper-Bound Poverty Line (UBPL)	620	779	1227
Lower-Bound Poverty Line (LBPL)	443	501	810
Food-Poverty Line (FPL)	321	335	561

Source: StatsSA (2012, 2015, 2019)

South Africa's poverty indicators show a clear upward trend in the cost of basic needs between 2012 and 2019, reflecting sustained pressure on household welfare. The upper-bound poverty line (UBPL) increased from R620 in 2012 to R1 227 in 2019, while the lower-bound poverty

line (LBPL) rose from R443 to R810 over the same period. This indicates that the income required to meet both food and essential non-food needs has nearly doubled in nominal terms. The food poverty line (FPL) also increased significantly from R321 to R561, highlighting the rising cost of securing minimum caloric intake and signalling persistent food insecurity among the poorest households. These increases, driven largely by elevated food and transport inflation, unemployment, and slow wage growth, underscore the deepened vulnerability of low-income households in the South African context (Stats SA, 2019; Stats SA, 2022).

The historical and current racial inequities in SA are often reflected in the country's poverty levels (Francis & Webster, 2019). In 2015, only 1% of white South Africans lived under the upper-bound poverty threshold, compared to 25.9% of Indians/Asians, 41.3% of Coloureds (a South African term that refers to persons of mixed-race background), and 64.2% of Black South Africans (see **Error! Reference source not found.**). The figure further shows that for all the population groups, the poverty rate declined, with Indian/ Asian with the highest decline.

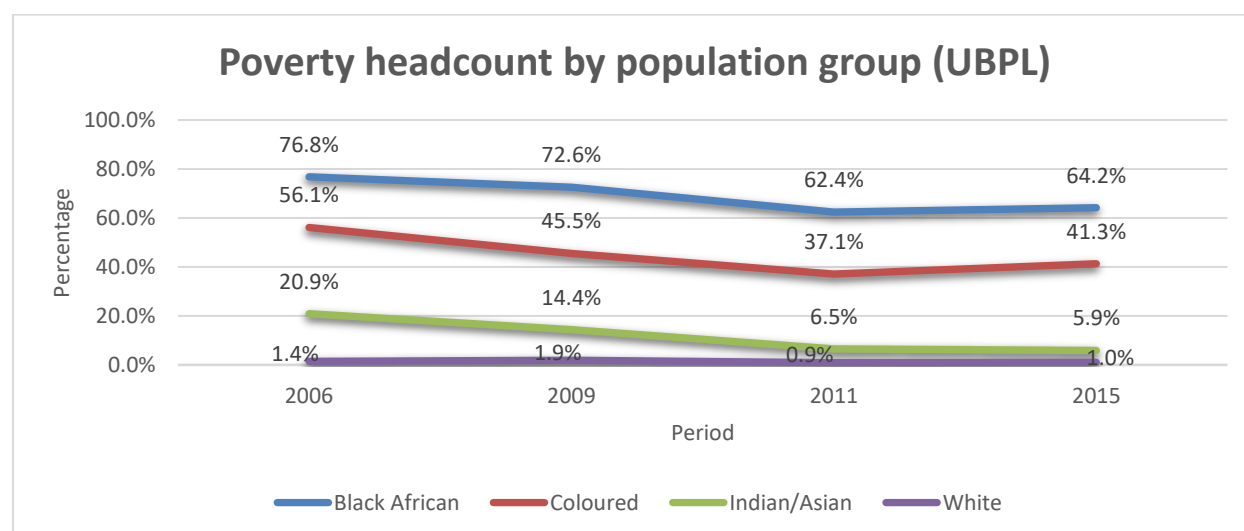


Figure 2:2: Poverty headcount for upper-bound poverty line
Source: StatsSA (2022)

Figure 2.3 further breakdown the poverty levels by province. Gauteng and the Western Cape have the lowest percentages of adults living in poverty, whereas KwaZulu-Natal (60.7%), Limpopo (67.5%), Eastern Cape (67.3%), and North-West (59.6%) have the highest percentages of adult poverty (see Figure 2.3). These statistics are based on Statistics SA 2022). These four provinces had almost half of their population living in poverty. The lowest percentages of adult poverty were seen in Gauteng (29.3%) and the Western Cape (33.2%).

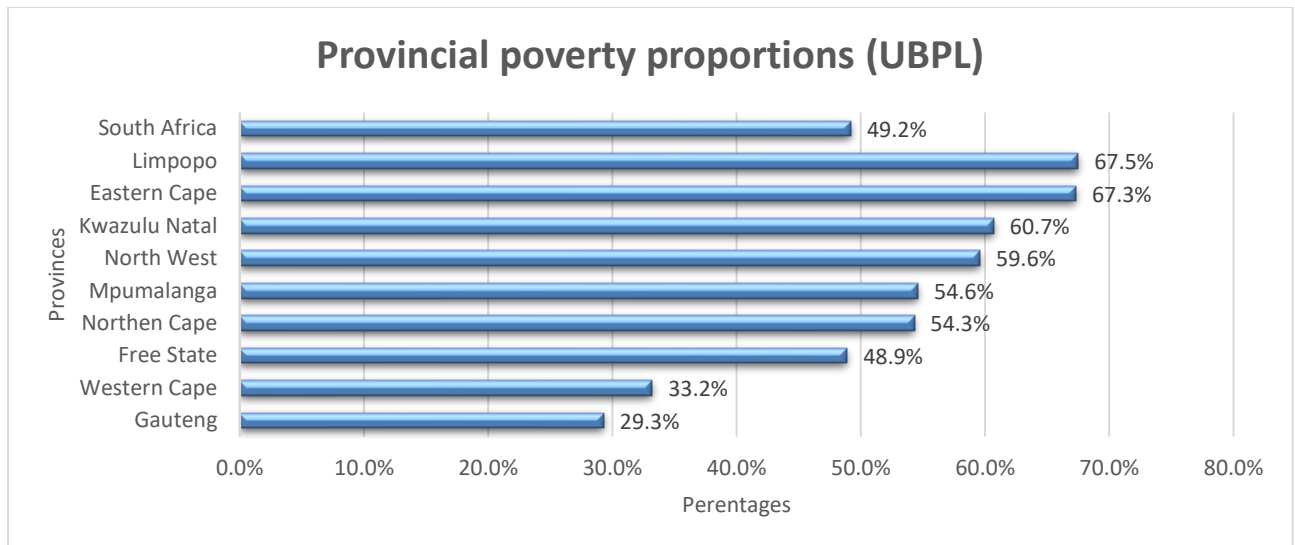


Figure 2.3: Provincial poverty proportions for upper-bound poverty line

Source: StatsSA (2022)

The number one Sustainable Development Goal (SDGs) entails alleviating poverty. Figure 2.3 shows the state of SA's efforts to alleviate poverty through the SDGs. The table illustrates that poverty has decreased over time, as the proportion of the population living below the poverty levels of US\$1.25 (PPP) and US\$2.00 (PPP) all fell significantly in 2011 when compared to the population in 2000. The narrowing of poverty gaps is another indicator of the decline in poverty as highlighted in Figure 2.3.

Table 2.3: SA's Population Living Below the Poverty Line (2019)

Indicator	1994 baseline (or closest year)	Current status 2019 (or closest year)	2015 target
The proportion of the population below US\$1.25 (PPP) per day	17% (2000)	7.4% (2011)	8.5%
The proportion of the population below US\$2.00 (PPP) per day	33.5% (2000)	20.8% (2011)	16.8%
The poverty gap ratio is US\$1.25 (PPP) per day	5.4% (2000)	1.9% (2011)	2.7%
The poverty gap ratio is US\$2.00 (PPP) per day	13% (2000)	6.5% (2011)	6.5%
The poverty gap ratio is US\$2.50 (PPP) per day	18% (2000)	10.3% (2013)	9%
Percentage of employed people living below US\$1.00 (PPP) per day	41.5% (2003)	3.9% (2009)	50–70%

Source: StatsSA (2019)

Table 2.3 shows that the percentage of people living below US\$1.25 per day decreased significantly from 17% in 2000 to 7.4% in 2011. This surpassed the 2015 target of 8.5%, while those living below US\$2.00 per day declined from 33.5% to 20.8%, indicating improved living standards and economic growth. South Africa's poverty gap ratio decreased from 5.4% to 1.9% at US\$1.25 per day, surpassing the 2.7% target. The gap also narrowed from 13% to 6.5% at US\$2.00 per day and 18% to 10.3% at US\$2.50 per day, aligning with the target. This

indicates progress in reducing poverty and bringing those remaining poor closer to the poverty line, while the percentage of employed people living below US\$1 per day decreased significantly from 41.5% in 2003 to 3.9% in 2009.

While Table 2.3 highlights the significant progress in reducing poverty and narrowing the poverty gap in SA, the persistence of absolute and relative poverty in certain regions indicates that economic improvement has not been evenly distributed. While poverty is supposed to be traced at an aggregate level, the reality is that in rural areas and former homelands-parts of South Africa that were denied development due to apartheid policies-high levels of poverty are still prevalent. Two areas today continue to have a poverty rate of over 50%, suggesting that, while a lot of people are being elevated toward the poverty line, almost all opportunities for many South Africans remain unattainable due to structural inequalities (Tafadzwa, 2013; Woolard, 2000).

Looking at the recent extent of poverty, the 2020 United Nations Human Development Report (UNHDR) indicated that there were many South African citizens living below the international poverty line. According to the report, 18.9% of the population live on less than R28.00 (US\$1.90) a day, which is around R800 (US\$55) per month. The report also looked at different forms of poverty, which it categorises as “multidimensional.” The multidimensional poverty looks at poor health, malnutrition, a lack of clean water, inadequate access to healthcare services, and poor, if any, housing conditions. Evidence shows that nearly 4 million South Africans are in a state of multidimensional poverty (United Nations Development Programme [UNDP], 2020).

Income growth will also increase income inequality, without redistribution of wealth. This has been tested in Table 2.3, where the overall poverty rate may be declining, but income inequality remains a concern. Poverty reduction has been shown despite a huge reduction in the country's poverty gap in terms of different poverty levels, such as US\$1.25 and US\$2.00 per day. Other factors, such as improved working conditions, have also contributed significantly, with the percentage of people employed under US\$1 per day falling from 41.5% in 2003 to 3.9% in 2009. Changes in the wider economic environment suggest that economic growth may reduce poverty rates but that gains are not shared equally. This highlights the need for an inclusive economic policy that puts income growth and income inequality in the same perspective. To determine whether economic growth in SA reduces poverty rates, the annual GDP growth percentage from 1994 to 2023 will be discussed.

Table 2.4: GDP in South Africa (1994 to 2023)

GDP Growth (Annual %)			
1994	3.2%	2009	-1.5%
1995	3.1%	2010	3.0%
1996	4.3%	2011	3.2%
1997	2.6%	2012	2.4%
1998	0.5%	2013	2.5%
1999	2.4%	2014	1.4%
2000	4.2%	2015	1.3%
2001	2.7%	2016	0.7%
2002	3.7%	2017	1.2%
2003	2.9%	2018	1.6%
2004	4.6%	2019	0.3%
2005	5.3%	2020	-6.2%
2006	5.6%	2021	5.0%
2007	5.4%	2022	1.9%
2008	3.2%	2023	0.7%

Source: World Bank (2023)

As indicated in Table 2.4, the years before the 2008 global financial crisis showed stable economic growth, with annual rates ranging from 3.2% to 5.4%. The highest growth rates were in 2006 and 2007, indicating strong expansion. In 2008, GDP growth slowed to 3.2%, followed by a -1.5% contraction in 2009 due to the global financial crisis. However, a modest recovery occurred in 2010 and 2011. From 2011 to 2014, the South African economy experienced weak growth rates, fluctuating between 1.4% and 3.2%, indicating a sluggish recovery from the global financial crisis. By 2015, growth slowed to 1.3% due to a global slowdown in emerging markets and ongoing uncertainties. The year 2020 saw a 6.2% GDP contraction due to the COVID-19 pandemic. The economy experienced a strong recovery in 2021, with GDP growth reaching 5.0%. However, growth declined in 2022 and 2023, indicating ongoing global challenges. However, with respect to extent, the rise and fall of South Africa's GDP growth has impacted the extent of poverty. Economic growth is expected to aid poverty reduction, while recessions and slow recoveries would intensify poverty measures. This scenario was one in which the COVID-19 pandemic consolidated poverty, while recovery efforts were made at a slow pace of growth in the recent past, highlighting the difficulty in tackling poverty and inequality in this country.

Prior study evidence, like that of Tendulkar and Jain (1995), shows that reduced levels of poverty are correlated with higher rates of economic growth, as indicated by the rise in real GDP. Thus, economists concur that reducing poverty requires rapid expansion of the economy. This argument states that greater economic growth, as indicated by increased per capita incomes, would result in a decrease in the overall rate of poverty in a nation (UNDP,

2014). As a result, economic expansion has been one of the most common approaches utilised by numerous countries to address poverty (World Bank, 2015).

South Africa's persistently weak economic performance is underpinned by binding structural constraints, including chronic electricity shortages, infrastructure backlogs, labour-market disruptions such as strikes and absenteeism, and exceptionally high youth unemployment. These challenges have suppressed private investment, weakened productivity, and constrained employment creation, thereby entrenching poverty despite policy efforts to stimulate growth. By raising the cost of doing business and limiting the economy's capacity to absorb labour, these structural weaknesses undermine inclusive growth and poverty reduction. This underscores the central importance of reforms in energy supply, infrastructure investment, and labour-market functioning for restoring investor confidence and reducing long term poverty (South African Reserve Bank (SARB), 2013; Creamer, 2021; Bhorat & Kimani, 2018; International Monetary Fund (IMF), 2023).

SA's GDP per capita increased over the preceding ten years despite the country's recent decreasing trend in economic expansion levels. Figure 2.4 below depicts SA's per capita income trend (in constant 2015 prices) from 1960 to 2021. From the 1960s to the 1970s GDP per capita increased, however showing a slight decline in the 1980s. From the 1980s to 1990s, GDP per capita declined noticeably possibly reflecting the challenges SA faced during the change from apartheid to democracy. From 2000 to 2021, GDP per capita rebounded, reflecting economic recovery driven by global commodity booms and domestic economic reforms. The highest GDP per capita was in the 2010-2021 period.

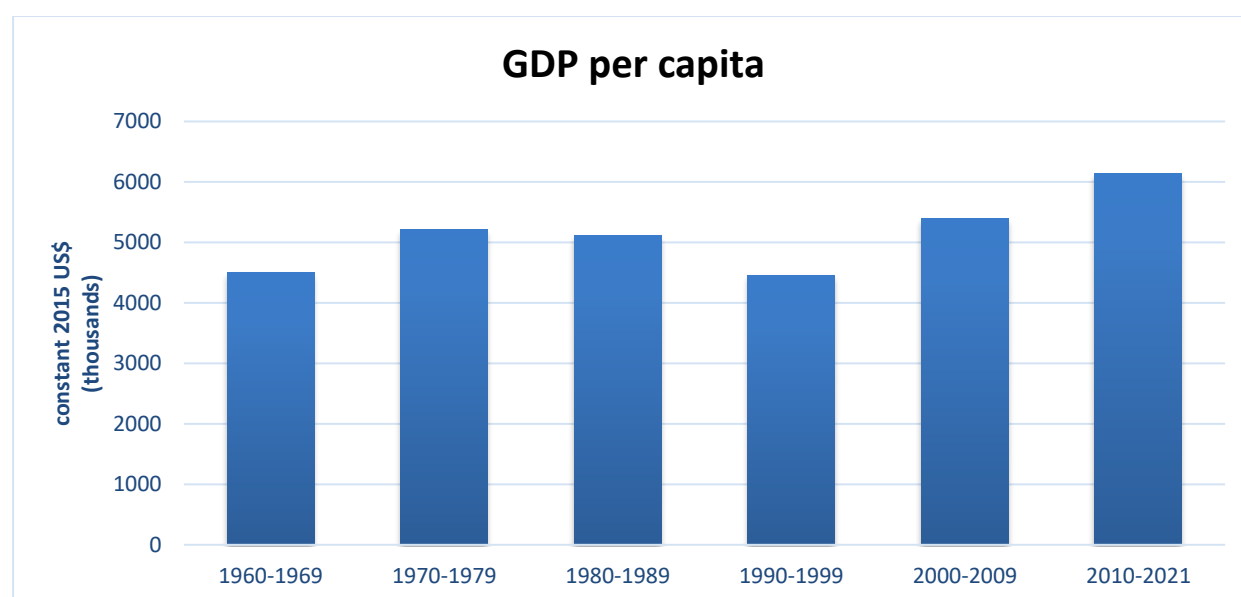


Figure 2:4:SA's per capita income (1960–2021)

Source: World Bank (2023)

Global poverty rates are affected differently by economic growth. For instance, the World Bank (2014) estimates that a 2% increase in economic growth might lead to a 1.7% decrease in poverty. This is mostly dependent on the nation. Some argue that growing incomes could make the distribution of income worse. A nation's economic growth may also negatively affect the disparity in income, lessening benefits for the underprivileged.

2.4.2. The Causes of Poverty in South Africa

Trade liberalisation in SA was implemented to integrate the country into the global economy, increase competition and drive economic growth. However, while trade liberalisation has brought some economic benefits, its relationship with poverty is complex. The literature identified some common causes of poverty in SA. Poverty is mainly due to poor education, lack of employable and competitive skills, poor health, and low disposable income or unemployment (Van der Berg et al., 2011). Poverty is also defined by the World Bank (1990) and the United Nations (1995) as a lack of income, productive resources, hunger, malnutrition, poor health, limited access to basic services, poor living conditions, and social marginalisation. All these have influenced how South Africans have experienced the effects of trade liberalisation.

2.4.2.1. Poor Education and the Lack of Marketable Skills

In many developing countries, the problem of poor education is a serious one, which is a challenge because, without education, people cannot fully participate in society. Without proper education, people have limited access to the labour force, to earn a living, and to support national development. They may also have difficulty communicating effectively, sharing ideas, being creative and improving their standard of living (Thomson & Robertson, 2012; UNDP, 2014).

SA has one of the highest unemployment rates (31.9% in quarter 4, 2024), especially among its predominantly black population (35.8% in quarter 4, 2024) (StatsSA, 2024). The significant labour-use gap reflects the highest percentage of unemployed blacks as school dropouts, who do not go on to university. This means that 25 years after the democratic transition, the scars of an apartheid-influenced under-education system remain. These include significant infrastructure deficiencies in low-income education institutions, high pupil-teacher ratios and persistent teacher absenteeism (SARB, 2021). Education influences a person's chances of obtaining employment. In the fourth quarter of 2024, individuals with less than a matric faced an unemployment rate of 38.2%, while those with a matric had a rate of 33.8%. In contrast, individuals with other tertiary qualifications and graduates had rates of 19.8% and 8.7%,

respectively. This is significantly lower than the national unemployment rate (StatsSA, 2024). This shows that education plays an important role in increasing employment.

Trade liberalisation generally creates structural shifts in employment. While additional jobs are created in competitive sectors, jobs in industries unable to cope with cheaper imports are lost (Rodrik, 2018). Therefore, workers lacking proper education and marketable skills find it hard to adjust to new industries, thereby increasing unemployment. In SA, under post-liberalisation, for example, the decline of the textile industry in the 1990s led to many low-skilled workers being unemployed since they did not possess the necessary qualifications for the emerging sectors (Edwards and Jenkins, 2015).

Many black people also remain illiterate (19.2%) due to the poor quality of the education provided during apartheid (Department of Higher Education and Training, 2024). As a result, they lack the knowledge and skills needed to compete in the labour market and to be able to provide for their families. SA also suffers from a large skills gap, with most of its workforce being unskilled or semi-skilled. It is particularly difficult for these people to find employment, particularly in the formal economy. As a result, a large proportion of South Africans are unemployed, and this skills mismatch prevents workers from securing employment in high-value sectors that trade liberalisation fosters (SARB, 2015; Bhorat, Cassim and Hirsch, 2020).

2.4.2.2. Poor Health

Poor health, which prevents people from working and earning income, is another reason for the high poverty rate in SA. Moreover, poor health drains households of their financial resources, leaving them with little money for food and other expenses and thus increasing the likelihood of poverty. The prevalence of HIV infection, AIDS, tuberculosis (TB), malaria, cancer and other diseases in SA is high (UNDP, 2014). Additionally, poor health limits workforce participation and increases business costs therefore reducing the potential benefits of trade liberalisation.

According to StatsSA (2024), the estimated overall HIV prevalence rate is 12.7% among the South African population, or 8.0 million individuals. Furthermore, a significant portion of the working-age population, an estimated 16.7% of those in the 15–49 age range, are HIV positive. HIV/AIDS is an economic problem that cannot be disregarded since it drives up labour expenses, which reduces profit margins for businesses (Powell and Hendricks, 2009). According to the World Bank (2015), the HIV/AIDS pandemic also affects personnel turnover rates and absenteeism, which further strains the resources of businesses. As a result, with improved health care, people will eventually be able to find employment, allowing them to escape the grip of poverty. Thus, if healthcare access is improved, especially for HIV/ AIDS

and TB, employment and productivity can increase, and the broader economy can gain from trade. Therefore, trade liberalisation must be complemented with strong public health policies to ensure that economic development is inclusive and durable.

2.4.2.3. Lack of Income

The third and most important cause of poverty is a lack of disposable income and employment opportunities. The lack of income may be linked to the fact that a significant proportion of the total population remains unemployed (SARB, 2015). The unemployment rate of SA has long been a key indicator of the economic health of the country, indicating underlying structural problems.

The official unemployment rate has been rising steadily since 1994. Unemployment increased from 20% in 1994 to 21.5% in 2014 and from 25.1% in 2015 to 25.5% in 2015. Unemployment has been steadily rising and reached around 29.1% by the end of 2019. This increase was driven by slow economic development, structural problems in the economy, especially unemployment among low-skilled and semi-skilled workers, and global economic uncertainty (SARB, 2020). Figure 2.5 below provides an overview of the unemployment rate in South Africa in 1994 when democracy was first established.

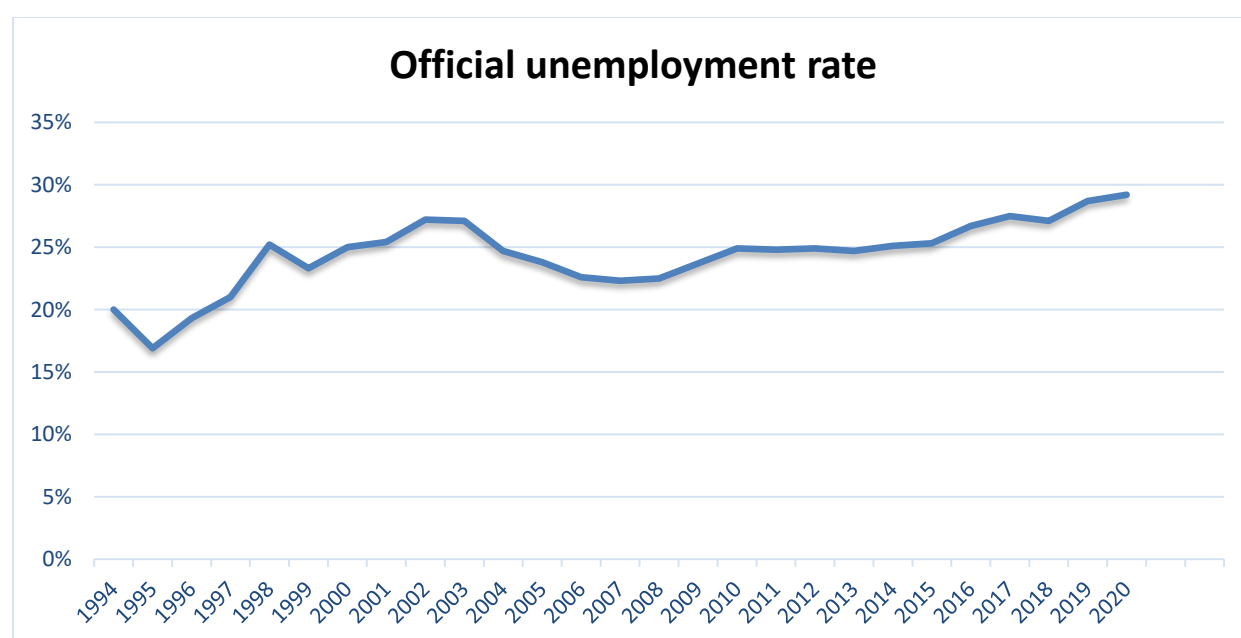


Figure 2:5:Unemployment rate 1994–2022

Source: SARB (2022)

As can be deduced from **Error! Reference source not found.**, the unemployment rate surged in mid-2008 due to the worldwide financial crisis. As global demand declined during the

recession period, there were huge job losses experienced in SA, particularly in the formal sector. Consequently, a sharp drop in export demand and weaker commodity prices resulted in the loss of employment for 1 million (SARB, 2015). Since the year 2000, the total number of jobs produced in the country has been insufficient to meet the expanding labour supply. Furthermore, SA's labour absorption rate is only 43.8% (StatsSA, 2015). The absorption rate describes the rate at which labour gets absorbed into the job market. According to the SARB (2022), one of the indicators of the country's low absorption rate is a decline in employment prospects in the agricultural, mining, and industrial sectors. This decrease in employment is concerning as these industries consume a significant amount of unskilled and semi-skilled labour. Although trade liberalisation opened SA to global markets, it has also contributed to rising unemployment through the reduction in the demand for unskilled labour and exposing key industries to import competition (SARB, 2022).

The persistence of high unemployment illustrates that trade liberalisation alone is insufficient to generate inclusive growth in the absence of complementary labour-market and industrial policies. Where trade liberalisation induces sectoral reallocation without adequate labour absorption, poverty may persist or intensify despite increased trade volumes (McMillan & Rodrik, 2011; Rodrik, 2018). This underscores the importance of analysing trade liberalisation not only as a growth strategy, but also as a process that reshapes employment structures, income distribution and poverty outcomes over time.

2.5. Summary

This shows that South Africa's trade liberalisation experience cannot be understood solely through descriptions of policy reforms, trade flows or macroeconomic indicators. When analysed through comparative advantage, Stolper–Samuelson effects, and structural transformation frameworks, trade reforms produced uneven sectoral and distributional outcomes. While openness facilitated global integration and export growth, it also exposed structural weaknesses in the domestic economy, particularly limited labour absorption, skill mismatches and incomplete industrial transformation (Edwards & Lawrence, 2008; McMillan & Rodrik, 2011). These dynamics help explain why trade liberalisation did not translate into proportional poverty reduction. The theoretical insights developed in this chapter provide the conceptual foundation for the empirical analysis that follows.

CHAPTER 3

REVIEW OF THEORETICAL AND EMPIRICAL LITERATURE

3.1. Introduction

This chapter reviews the theoretical and empirical literature that informs the study's central problem: why poverty persists in South Africa despite sustained trade liberalisation since the early 1990s. The literature is synthesised to clarify how trade affects poverty (prices, employment, wages, productivity and investment), and to explain why effects may differ across poverty thresholds and socio-economic contexts (Winters, McCulloch & McKay, 2004; Goldberg & Pavcnik, 2007a). In particular, the chapter foregrounds that trade impacts are mediated by structural conditions, including labour-market exclusion, inequality and informality, which can weaken the transmission of trade gains to poor households (Leibbrandt, Woolard & Bhorat, 2000; Bhorat & Kanbur, 2006). The review therefore motivates the study's use of multiple poverty proxies and a dynamic econometric approach to distinguish short-run adjustment from long-run relationships.

3.2. Theoretical Linkages Between Trade and Poverty

3.2.1. Overview

Poverty is multidimensional and extends beyond low income to include deprivation in basic capabilities and access to essential goods and services. From a welfare economics perspective, poverty reflects a shortfall in resources required to attain a minimum acceptable standard of living. On the other hand, the capabilities approach emphasises deprivation in substantive freedoms, what individuals can be and do, such as being adequately nourished, healthy, and socially included (Sen, 1997). In South Africa, absolute poverty is operationalised through official poverty thresholds that reflect different minimum needs baskets, namely the food poverty line, lower-bound poverty line, and upper-bound poverty line (National Treasury, 2007; StatsSA, 2023). Consistent with this framework, the present study measures poverty using three proxies: POV1 (upper-bound poverty line), POV2 (lower-bound poverty line), and POV3 (food poverty line). This allows the analysis to distinguish between broader poverty dynamics and extreme deprivation, recognising that macroeconomic change may affect these poverty thresholds differently.

The trade liberalisation and poverty nexus is an economics theme that has attracted much attention from researchers, with researchers exploring how trade liberalisation impacts poverty through various theoretical frameworks. Theoretically, trade liberalisation enhances market access, fosters competition and encourages specialisation based on comparative advantage

through promoting economic growth (Cicowiez, Díaz-Bonilla & Díaz-Bonilla, 2008). This may create more jobs resulting in more income and therefore potentially reducing poverty. Yet trade can also worsen inequality and vulnerability among the disadvantaged if the benefits are unevenly shared or if the labour market is inflexible (Cloutier et al., 2008). In this regard, any theoretical interpretation of trade and poverty must include both static and dynamic effects of trade. The following sections provide a discussion of these effects.

3.2.2. Static Effects of Trade on Poverty

Static effects refer to the immediate and short-term effects of trade liberalisation on the economy. Static effects are explained by several theories, such as Stolper-Samuelson, Heckscher-Olin and Comparative Advantage (Krugman, Obstfeld & Melitz, 2017; Stolper & Samuelson, 1941; Heckscher & Ohlin, 1933). While comparative advantage explains specialisation through relative productivity differences, the Heckscher–Ohlin (H-O) framework explains trade patterns through differences in factor endowments (Heckscher & Ohlin, 1933; Krugman, Obstfeld & Melitz, 2017). This distinction matters for poverty outcomes because the distributional predictions depend on whether trade expansion is labour-absorbing or skill/capital-intensive, which can yield very different wage and employment effects. These are discussed in more detail below. In addition, this section will discuss macroeconomic and microeconomic shocks and the distributional effects that further shape the extent to which trade liberalisation will reduce poverty.

3.2.2.1. Static Gains of Trade on Poverty

Static gains are defined as immediate and direct benefits that a country receives from promoting trade across international borders. These benefits result from the reallocation of resource sectors with comparative advantages (Krugman, Obstfeld & Melitz, 2018). Tsegaye (2014) notes that static gains occur right after trade liberalisation, as the countries can benefit from the efficiency of global trade accession relatively quickly. The process results in increased output sectors where a country has a comparative advantage, thereby increasing economic output. Static gains may lead to phenomenal effects on poverty alleviation in developing countries by promoting faster economic growth and improving access to lower-priced goods. Gains may include creating jobs and raising purchasing power, especially in rural or economically disadvantaged areas, such as reallocating resources to sectors in which countries have comparative advantage.

According to the Heckscher-Ohlin theory and the law of comparative advantage, countries experience increased productivity and consumption upon trade liberalisation. For example, capital or skilled labour-rich countries tend to export products that require these factors of

production, while they import goods that rely on abundant unskilled labour, hence promoting economic welfare (Anderson & Babula, 2008; Cruz, 2008). This process, especially in developing countries, helps by diversifying economies, increasing access to international markets, and accelerating industrialisation, which can directly contribute to poverty reduction. Trade liberalisation results in more efficient resource allocation, achieving lower production costs and higher consumption levels than could be achieved through autarchy. Such trade creation provides a stimulus for developing a competitive edge in global markets and fast-tracking sustainable development in the path of growth. Hence, static gains play a role in instant improvements in living standards, especially in the case of extreme poverty where higher productivity and cheaper goods can help lift the masses above the poverty line. In developing countries, one also gets better access to the global economy through these static gains, which eventually leads to better access to foreign investments and opportunities for local businesses.

3.2.2.2. Stolper-Samuelson Theorem

The Stolper-Samuelson theorem is an essential part of static trade theory. It links international trade and poverty and assumes that the distribution of resources and technologies will not change over time. According to the theory, trade liberalisation causes changes in income distribution that occur mainly through changes in returns to various factors of production. Initial predictions made by the theory about the trade patterns of newly opened countries were straightforward: that such countries would tend to produce and then import commodities whose production processes intensively used those factor owners. In other words, trade liberalisation would lead an abundant supplying country towards the production of goods which use more of the resources of this abundant supply factor. For instance, in countries where the supply of unskilled labour is plentiful, trade liberalisation leads to an increased demand for typically labour-intensive goods, increasing the wages that the unskilled workforce earns and thus reducing poverty in the poorest areas (Bhagwati & Srinivasan, 2002).

Although the Stolper–Samuelson theorem predicts that trade liberalisation benefits the abundance factor, its poverty-reducing implication relies on strong assumptions, including relatively smooth labour mobility and adjustment. In labour markets characterised by high unemployment, segmentation and informality, these assumptions are weakened, and trade shocks may not translate into broad wage gains for low-skilled workers. Recent South African-focused evidence highlights persistent labour-market exclusion and constrained absorption capacity, including heterogeneous transitions between formal employment, informal work and unemployment (Shah, 2022; Foster, 2023). In addition, municipality-level evidence indicates that trade exposure has been associated with widening skilled–low-skilled

wage disparities in South Africa, suggesting that trade may transmit through skills-biased channels rather than a simple equalisation mechanism (Mazorodze, 2021). Consequently, while Stolper–Samuelson remains a useful baseline, its predictions require qualification in contexts such as South Africa where adjustment frictions and labour-market structure shape distributional outcomes.

3.2.2.3. Comparative Advantage

From a neoclassical perspective, the theory of comparative advantage is fundamentally about employment adjustments and labour mobility. Trade liberalisation encourages countries to reallocate their resources in favour of industries in which their comparative advantage lies. That often involves producing goods requiring relatively abundant and low-cost inputs. Where unskilled workers are abundant in countries, they may experience their wages increasing as these sectors expand and bring about demand increases for unskilled labour. This increase in wages can potentially alleviate poverty by improving income prospects of vulnerable households, thereby contributing to reductions in income inequality (Krueger, 1983).

Developing countries can exploit comparative advantage in sectors such as agriculture, textiles, construction and manufacturing, where they can use their low-cost labour to tap into world markets. As a result of trade liberalisation, these sectors are expanding, leading to increased income and living standards for low-skilled workers. This may directly affect poverty reduction in countries with high unemployment. The growth of these sectors may also lead to the development of other sectors such as services, creating more employment opportunities and reducing poverty.

3.2.2.4. The Hecksher-Ohlin Theory Perspective on Trade and Poverty

The Hecksher-Ohlin theory discusses the effect of trade liberalisation on poverty in a distinct way based on factors such as unskilled or skilled labour or capital and shows the relationship between trade liberalisation and poverty reduction. It postulates that countries specialise in goods that intensively use their abundant factors of production. Increased economic efficiency would result from specialisation and hence, gains in trade. However, the impact of trade on poverty would depend much on their proportions in use (Wood, 1997).

In developing countries, where there will be an abundant supply of unskilled labour, trade liberalisation will tend to reduce income inequality as people revert to unskilled labour. Increasing trade will mean more production and export of goods, which will require more unskilled labour, resulting in high wages. Thus, increasing trade can reduce poverty in areas dependent on unskilled labour, as incomes rise, thereby lifting poverty in these areas to higher

levels of economic equality (Wood, 1997). Trade liberalisation can stimulate employment growth in sectors where a country has a competitive advantage, thereby spreading economic benefits more broadly across society.

However, in countries where skilled labour is relatively abundant, trade liberalisation can lead to increased income inequality. Increased demand for capital goods tends to raise the income of skilled labour, while leaving unskilled workers comparatively worse off. Nevertheless, the Heckscher-Ohlin theory suggests that the poverty effect of trade liberalisation is not uniform but depends on the country's own resource allocation and relative abundance of labour and capital (Wood, 1997). Extending the Heckscher-Ohlin logic to South Africa requires recognising that a meaningful share of trade is anchored in skill and capital-intensive activities, while labour-absorbing opportunities are constrained by structural unemployment and limited informal-sector absorption. In such settings, trade liberalisation can raise returns to skills and widen wage differentials even when aggregate welfare improves. This implies that poverty outcomes depend on whether trade expansion is accompanied by labour-absorbing structural change and skills upgrading (Mazorodze, 2021; Beaton, Cerra & Hadzi-Vaskov, 2021)

3.2.2.5. Macroeconomic Shocks and Poverty

Macroeconomic shocks shape the trade–poverty relationship by altering export demand, import prices, exchange-rate conditions, inflation dynamics and employment outcomes—thereby affecting household welfare. In open economies, global shocks such as financial crises or abrupt external demand contractions can magnify vulnerability, particularly where households have limited buffers, and firms respond through job shedding or reduced hiring. In empirical modelling, such shocks are commonly captured through crisis indicators and dynamic adjustment terms to distinguish short-run disturbances from long-run relationships. This motivates the use of structural-shock controls (for example, a crisis indicator) within ARDL-type models, which can accommodate short-run volatility while estimating long-run equilibrium relationships in the presence of structural breaks (de Janvry & Sadoulet, 2001; Sunde, 2025)

3.2.2.6. Microeconomic Shocks and Poverty

Microeconomic shocks can be defined as changes that affect income and employment at the firm, household, or industry level, often directly affecting poverty levels. For instance, through trade liberalisation, changes in government policy, technological advancements, or changes in demand by consumers, microeconomic shocks can cause shifts to happen. In line with what

Winters, McCulloch and McKay (2004) argue, microeconomic shocks have significance for the poorest segment of the population as sometimes found in developing countries because a large section of the workforce is employed under contract in low-wage, labour-intensive industries.

Microeconomic shocks can also affect poverty through price changes for goods and services. Trade liberalisation may reduce the prices for imported goods; hence, consumers are likely to benefit. However, it could raise the prices of goods previously protected since they were under tariff. Poor households often spend a considerable portion of their income on just basic goods, making them easy prey for such price changes. Such microeconomic shocks can also change the availability of jobs, as some industries may benefit from trade liberalisation while others may contract because of increased competition. This would ultimately lead to job losses or lower wages for the workers in the sectors that do not compete well in the global trade market, further increasing the levels of poverty.

Changes in technologies involved in production and shifts in demand will likely lead to structural changes within any given economy such that, while some workers are displaced from certain sectors, new opportunities may arise in other sectors. Hence, in cases where the transition to new employment is not swift, transition periods will likely be characterised by short-term income instability and higher poverty.

3.2.2.7. Distributional Effects of Trade Liberalisation

Trade liberalisation can have significant distribution effects, which means that it can affect groups within a society differently. Thus, while trade liberalisation can increase overall economic welfare, its benefits are not always distributed evenly. The effect depends on various factors, including the regional structure of the economy, the skill level of the workforce, and current income inequality.

According to McCulloch and McKay (2002), trade liberalisation benefits groups that are employed in sectors with a comparative advantage, such as industries that can expand due to access to foreign markets. These sectors generally see an increase in productivity, wages and employment. In contrast, sectors facing an increase in competition from foreign goods may contract, causing job loss, reduced wages, and poverty among workers in those industries. Low-income workers, particularly those in labour-intensive industries, are more vulnerable to these negative effects.

Furthermore, trade liberalisation often increases income inequality within countries, especially in developing economies. Efficient task forces, which are usually more optimal and can take advantage of new opportunities, may experience an increase in wages, while less efficient workers may see their wages stable or declining. Therefore, while trade liberalisation can reduce overall poverty, it can also increase inequality if benefits are not widely shared (Winters, McCulloch & McKay, 2004).

Trade liberalisation can also affect social group differently within a country. Chan and Dung (2006) argue that the wealthy could benefit from trade liberalisation if they use more imported goods. Moreover, different members of a household may be affected differently by trade liberalisation. For example, Siddiqui (2007) suggests that trade liberalisation, combined with a reduction in government expenditure, not only benefits the rich but tends to reduce women's social security relative to that of men. This could further affect women (who are more likely to be in poverty than men).

Developing countries, typically associated with large rural and informal sectors, are therefore facing major challenges because of trade liberalisation. While workers in competitive export-orientated sectors may experience an increase in wages and job opportunities, workers in less competitive sectors may experience a decrease in wages or even job displacement. This can worsen income inequality within a country and ultimately lead to an increase in poverty.

3.2.3. Dynamic effects of trade on poverty

Dynamic trade effects operate over time through productivity growth, innovation, firm entry and exit, and structural transformation, channels that shape long-run income and poverty trajectories. Trade liberalisation can generate welfare gains not only via efficient resource allocation (static gains) but also by expanding market size, raising competitive pressures, and strengthening incentives for innovation and upgrading (Berg & Krueger, 2003; Grossman & Helpman, 1991; Melitz, 2003). Recent syntheses emphasise that trade liberalisation and openness affect innovation through market size, competition, comparative advantage and knowledge spillovers, implying potentially sizeable dynamic welfare gains relative to static gains (Melitz & Redding, 2021). However, dynamic gains are not automatically pro-poor. If upgrading is capital- or skill-intensive, employment creation for low-skilled workers may lag, and poverty reduction may be uneven without complementary policies that support labour absorption and skills mobility (Goldberg & Pavcnik, 2007a; Amiti & Konings, 2018).

Trade liberalisation leads to poverty reduction in developing countries by promoting growth and enhancement of productivity and employment opportunities. Unit costs are lowered

through economies of scale, enabling improvements in efficiency and lowering prices to benefit lower-income segments. The consequence of such trade varies from country to country; while in support of industrialisation and labour-intensive industries, less-developed countries have often mostly harnessed the potential economic power of trade in favour of their rich. Age'nor (2002) posits the non-linear nature of this relationship, in which trade, through early liberalisation, works against the interests of the poor, but will eventually serve to alleviate poverty. Large firms enforce their rivalry in trade even more than smaller firms. Trade liberalisation must therefore be reinforced by other policies, including education, infrastructure, and macroeconomic stability, for the effects to be maximally positive. Such effects could also be minimised for vulnerable workers through a sound institutional foundation and social safety nets focused on them. The sustainable intervention of policy for poverty reduction must put in place a mechanism that compensates for trade gains through protection of the marginalised groups and ensuring their inclusion in growth.

3.2.3.1. Conceptual framework of trade liberalisation and poverty transmission channels

A coherent way to integrate the dynamic trade–poverty relationship is to recognise that trade liberalisation affects poverty. This occurs through multiple interacting channels, growth and structural change, labour-market adjustment, price dynamics, and investment/technology diffusion, while macroeconomic shocks can alter short-run adjustment paths. This study therefore conceptualises poverty outcomes (POV1–POV3) as being shaped by both long-run transmission mechanisms and short-run disturbances, consistent with a dynamic modelling approach.

3.2.3.2. Hierarchy of theories and relevance to this study

Among the theoretical approaches reviewed, the most directly relevant anchor for this study is the trade–poverty transmission framework emphasising multiple channels—prices, employment, and factor return. This aligns with the study's model structure and inclusion of macroeconomic controls (Winters, McCulloch & McKay, 2004). Within this framework, H-O/Stolper–Samuelson provides baseline distributional predictions, but these are conditional on labour-market frictions, unemployment persistence and limited absorption in the informal economy. Finally, the dynamic productivity/innovation channel (Grossman and Helpman, 1991; Melitz, 2003) provides the key rationale for longer-run effects operating through upgrading, firm reallocation, and productivity gains that may or may not be labour-absorbing depending on sectoral composition and skills constraints.

3.2.3.3. Productivity and innovation gains and their implications for poverty

Productivity and innovation link trade liberalisation to poverty through two pathways. First, productivity gains can reduce unit costs and consumer prices, increasing real purchasing

power, particularly important for poor households. Second, productivity-driven expansion can raise labour demand and wages in competitive sectors where labour absorption is strong. However, where upgrading is skills-biased or capital-intensive, employment creation for low-skilled workers may lag, and poverty reduction may be uneven without skills formation and mobility (Grossman & Helpman, 1991; Melitz, 2003; Goldberg & Pavcnik, 2007a). Recent evidence further highlights that trade shapes firms' incentives to innovate through market size, competition and knowledge spillovers. Thus, long-run poverty outcomes depend on how innovation-driven restructuring interacts with labour-market adjustment and inclusion (Melitz & Redding, 2021).

3.2.3.4. Models and Theories Explaining Trade-Poverty Linkages

The neoclassical model leaves open the question of how trade liberalisation and economic expansion will ultimately affect poverty levels and their dynamic effects. It implies that trade does not directly influence the equilibrium or stable condition of production, but that the concept of exogenous technological advance dictates growth and its influence on poverty (van Berkum and van Meijl, 1998). Trade policy is expected to shape how resources are distributed among industries within a two-sector model, affecting savings and steady-state capital accumulation. This might impact the steady-state level once, but not the steady-state level's growth rate.

Dollar and Kraay (2004) further conclude that trade liberalisation is associated with poverty reduction through faster economic growth and increased job opportunities. However, the relationship between trade liberalisation and poverty differs from country to country. In developing countries, trade has had a positive impact on industrial development, labour-intensive industries and integration of domestic economies into the global economy, which in return has reduced poverty levels. By expanding export markets and attracting foreign investment, developing countries can increase their growth rates and living standards.

However, the rich are often privileged over the poor because richer people and big companies are better placed to take advantage of new market opportunities and exploit economies of scale. They can also increase productivity and competitiveness through increased access to technology and resources. On the other hand, poorer people and smaller firms may struggle to compete with cheaper imports and thus face job displacement. This gap contributes to growing inequality, even as poverty rates decline (Rodrigues and Rodrik, 2000).

In explaining the relationship between the liberalisation of trade and poverty alleviation, Age'nor (2002) suggests an analogous inverse U-shaped association between poverty and

globalisation driven by a relative wage effect. According to his theory, the skilled-unskilled wage gap first grows due to trade liberalisation because of the tight substitution between imported capital goods and workers who lack training and those who are less skilled. However, over time, this initial widening of wage gaps may result in investments in human capital, a steady rise in the availability of skilled labour, and a reduction in the wage difference. Thus, he contends that there is a non-linear Laffer-type relationship between poverty and trade liberalisation, with trade liberalisation harming the poor at low levels and alleviating poverty at higher levels. According to this viewpoint, trade liberalisation may harm the poor in some nations, not because it went too far, but rather because it failed to go far enough. Additionally, he argues that there are several reasons to believe that trade liberalisation would ultimately promote prosperity and reduce poverty.

According to Bhagwati (2004), examination of the relationship between trade liberalisation and poverty is based on a two-step argument: first, that trade promotes growth, and second, that growth decreases poverty. Some cross-country or multi-country studies have been conducted to investigate the two-step relationship between trade liberalisation and poverty. For example, Dollar and Kraay's (2001, 2004) early studies demonstrated a positive link between trade and poverty by linking trade liberalisation to growth and growth to poverty reduction. Increased growth rates, on average, result in corresponding gains in the incomes of the poor, which may contribute to poverty reduction.

Individual case studies and cross-country analyses also support the assumption that trade liberalisation accelerates growth and reduces poverty in developing countries (Dollar and Kraay, 2004). According to their findings, trade liberalisation benefits the poor in countries around the world and reduces poverty. However, these findings have been criticised by several researchers. Rodriguez and Rodrik (2000) and Ravallion (2001a) argue that cross-country correlations can be misleading for development policy because they are fraught with data problems, conceal social welfare benefits, and ultimately affect poverty. Broad generalisations that international trade promotes growth and that growth promotes poverty reduction are made quite frequently.

Thorbecke and Nissanke (2006) further argue that trade liberalisation has the potential to affect poverty both directly and indirectly through "growth effects", shifts in the relative prices of goods that encourage or discourage the cost of goods. Liberalisation may also result in variations in the relative pricing of factors caused by trade or factor mobility, the complexity of technological developments and the mechanisms of diffusion, volatility and vulnerability, and

the nature of global information flows. Similarly, institutions can be built that either prevent the transmission of the effects of trade liberalisation to the poor or reinforce them.

Increased economic openness should go hand in hand with a stronger commitment to low inflation, as Bhagwati and Srinivasan (2002) note. This should promote growth in the long run and especially help the poor if they are vulnerable to inflation. However, the short-term relationship between high and low inflation and unemployment may be weak. Furthermore, globalisation could have an impact on social spending, for example, which in turn would have an impact on poverty. The “race to the bottom” hypothesis states that free market economies could face up to competition by lowering taxes, which will be accompanied by a decrease in spending on social benefits (Sinn, 1997). However, the literature also supports the compensation theory, a countervailing process according to which open economies would prefer to expand the welfare state to serve as an insurance institution (Rodrik, 1998; Lindbeck, 1976).

3.2.3.5. Productivity and Innovation as Drivers of Poverty Reduction

Productivity is another possible way of linking trade liberalisation and poverty through dynamic effects. Higher productivity means lower input as opposed to higher output. Assuming that labour is the most important input, the short-term effect could lead to fewer jobs being created, thus exacerbating poverty. Notwithstanding the premise of the current growth theory, that trade liberalisation leads to greater competitiveness and access to improved intermediate goods and new technologies, the relationship between productivity and poverty reduction remains uncertain (Petersson, 2007).

The relationship between trade liberalisation and poverty is complex, as the economic benefits are not always evenly distributed across society. Trade liberalisation could generally boost the growth of the economy, but the gains may be accumulated by the wealthy and larger firms who are more able to take advantage of new market opportunities. These wealthy people and larger firms have the necessary resources, capital and infrastructure to increase productivity and grow their business, while smaller, poorer firms may not have a chance to compete. Therefore, the rich can earn more while the poor face job insecurity and lower wages, which in turn would increase income inequality (Rodriquez and Rodrik, 2000).

Ben-David, Nordström and Winters (2000) contend that trade liberalisation is an aid to poverty alleviation since it allows individuals to take advantage of their productive potential thus assisting economic progress, including curtailing arbitrary policy interventions, and providing shock protection. Alongside this view, one could argue that trade can help reduce poverty in

the long run if the poor receive most of the benefits of income growth. The factors or structures of production may need to alter because of open trade. Knowing what to produce, with what resources, and by whom, as well as how to employ local resources effectively, may therefore be important for the nation (Food and Agricultural Organisation, 2003).

Grossman and Helpman (1991) emphasise that trade openness can stimulate innovation and growth by providing access to new technologies and market opportunities. Similarly, trade liberalisation leads to intra-industry reallocations that increase overall industry productivity (Melitz, 2003). Thus, more competing industries emerge, and inefficient firms leave the market, while the productive ones expand, raising the average level of productivity. This structural change will undoubtedly lead to economic growth, but the accompanying displacement of jobs is usually borne by low-skilled and vulnerable workers, increasing the risk of poverty.

Moreover, according to Tussie and Aggio (2006) and Alam and Murad (2020), trade liberalisation stimulates growth by lowering prices, providing better information and introducing newer technologies. To achieve favourable growth outcomes however, trade liberalisation must be accompanied by appropriate complementary policies such as education, infrastructure and macroeconomic policies. Each country's specific trade and other policies are highly influenced by its circumstances and have different economic impacts. It is therefore important to focus on the individual ways in which each country's trade liberalisation affects poverty.

3.2.3.6. The Complementary Role of Policies and Institutions

The conceptual framework developed by Winters, McCulloch and McKay (2004) explains the links between trade policies and poverty. According to this framework, two main perspectives can be identified. First, trade liberalisation helps fight poverty. In this view, trade liberalisation could raise the income of the poor to combat poverty, since the increased income could enhance economic growth and employment, among other things. Second, the expansion of high-intensity, low-tech industries that come with trade liberalisation often coincides with economic growth, especially in emerging nations, and the hiring of low-skilled labourers could then reduce poverty. Several empirical studies have corroborated this viewpoint. For instance, Sapkota and Sharma (1998) used the computable general equilibrium (CGE) approach to model a decrease in Nepal's import tariffs and found that poverty levels decreased faster in poor areas than in other regions.

According to Easterly (2004), Topalova and Khandelwal (2011) and McCaig and Pavcnik (2018), trade liberalisation can promote more efficient resource allocation by allowing countries to specialise and import goods with high domestic production costs. It can also facilitate labour reallocation toward more productive and better-paid employment opportunities. When accompanied by investment in education and skills, such structural changes can enhance individual productivity and long-term income growth.

Winters, McCulloch and McKay (2004) also point out that trade liberalisation must almost always be combined with other appropriate measures. These measures include support for investment, the peaceful settlement of disputes and the development of human capital. Such complementary dynamics would not be captured by linear regression models. The importance of complementary policies has been further highlighted in several recent studies examining the advantages and disadvantages of trade liberalisation for developing countries. The study by Freund and Bolaky (2007), for example, shows that excessive regulations hinder growth by taking resources away from the most productive industries and firms. Similarly, Sindzingre (2005) believes that institutions can help explain the differences in the relationship between globalisation and poverty. He believes that certain domestic political structures and institutions, such as predatory or oligarchic regimes, may prevent the impoverished from reaping the benefits of globalisation.

Regarding the role of institutions, McMillan and Rodrik (2011), Haltiwanger (2012) and Kanbur (2020) argue that the national institutional context plays a crucial role in defining the benefits of trade liberalisation. In this context, trade is about the reallocation of resources from less productive to more productive uses. For instance, efficient institutions that reduce delays and improve the regulatory environment significantly improve trade performance. Countries with better institutions trade more efficiently and derive greater benefits from globalisation (Djankov, Freund and Pham, 2010). However, many things can go wrong in this process (Muradian and Martinez-Alier, 2001). The infrastructure for communication or transportation may be underdeveloped, or inadequate competition laws may allow large companies to abuse their dominant market position. It is unlikely that the benefits of greater trade liberalisation will be realised in such a distorted economic environment. In the worst-case scenario, a "decoupling" may occur, i.e. a situation where policy changes lead to some companies downsizing and closing, but the growth of others is not encouraged.

In a different context, Cicowiez and Conconi (2008) offer a different perspective when they examine the impact of trade liberalisation on poverty in emerging economies. They emphasise the importance of complementary measures to optimise the benefits of liberalised trade while

minimising its adverse effects. These measures include social safety nets, education and training programmes, infrastructure development and initiatives to promote market access for marginalised groups. They recommend increased investment in education and training to improve workers' skills and employability so that they can take advantage of the new employment opportunities that trade liberalisation offers. Focusing on sectors with high development potential and labour-intensive enterprises is also recommended.

Despite the clear advantages of trade liberalisation, the benefits are not automatically all-encompassing. The rich are often better positioned to profit from new economic opportunities, while poorer households may face job insecurity or stagnant wages, particularly when labour-market adjustment is incomplete (Rodrik, 1997; Ravallion, 2004). Reducing inequalities and maximising the poverty-reducing impact of trade therefore requires complementary policies that protect vulnerable groups and promote inclusive economic growth (Bourguignon, 2004; Winters, McCulloch & McKay, 2004). By addressing structural inequalities and investing in human capital, emerging economies can ensure that the gains from trade liberalisation are distributed more evenly across society (Stiglitz, 2002; Rodrik, 2011).

3.2.3.7. Income Distribution and Government Revenue Implications

Cloutier et al. (2008) and McCaig and Pavcnik (2018) look at the relationship between trade liberalisation and poverty from the viewpoint of income. Trade liberalisation affects resource allocation and income as households' factor charges change. Positive effects on household components are expected to lead to income growth. In addition, price liberalisation in trade has an impact on household expenditure. When the price of products falls, consumption increases, and the impact on income and household endowments on poverty levels is considerable. The impact of consumption and income determines whether poverty levels rise or fall. Similarly, Porto (2006) found that trade liberalisation improves the welfare of households, especially poorer households, due to lower consumer prices.

Trade liberalisation can have an indirect impact on poverty through increased revenues for the government. In this scenario, government taxes and spending on social programmes and transfers are used to alter household incomes. Trade reforms may reduce tariff revenues, which could reduce government revenues. Consequently, the importance of these tariff and tax revenues, and how the government responds to these revenue changes, are the most important factors in determining how this decline in revenues affects poverty. The government can reduce transfers to low-income households in response to the decline in revenue or increase taxes to compensate for the loss of income. Taxes on consumption, which are mostly

levied on the poor, can have a negative effect (Winters, 2000; López and Nguyen, 2022). Gourdon and Maur (2008) also note that trade liberalisation can also reduce customs revenues, which has an impact on the national budget and social spending. This in turn has an impact on household income and poverty.

Ben-David, Nordström and Winters (1999), and Amiti and Konings (2018) point out that this scheme can reduce poverty by expanding the market through the introduction of goods that were not traded or accessible before the reform while increasing consumer options. Allowing the government to improve public welfare through the collection of taxes (which, if used properly, can reduce inequalities and promote development) and fund strategic programmes for the poor, provides flexibility to the government. Thus, by improving market access and the variety of goods offered to customers, trade liberalisation can indirectly alleviate poverty. This improves consumer welfare and has the potential to contribute to poverty reduction (Winters, McCulloch and McKay, 2004).

The dynamic gains from international trade are long run in nature: a country benefits from greater openness over time. The benefits can be either positive and/or negative, and in trade theory, there is an unclear distinction between the two (Lawrence and Weinstein, 1999). Bhagwati and Srinivasan (2002) have found for example, that the impact of trade on economic growth can also lead to a reduction in poverty. This confirms the 'Bhagwati hypothesis' from the early 1960s that sees economic growth as the main driver of poverty reduction. The hypothesis refers to the dynamic gains from trade, and states that increased trade not only leads to higher income but also to the goal of economic growth, i.e. an equitable distribution of economic gains.

In addition, trade liberalisation can increase national income, as previous studies have shown (Anderson and Babula, 2008; Pierce and Schott, 2020). Access to imported inputs through trade liberalisation can increase national income by improving productivity and promoting economic growth. However, the distribution of gains can be uneven, requiring more efforts to reduce poverty (Amiti and Konings, 2007; Melitz and Redding, 2015). Moreover, this does not always go hand in hand with strong economic growth, as negative development may even occur despite an increase in overall income. As international trade is widely recognised as a driver of prosperity, it can have both positive and negative consequences for a nation. Therefore, to achieve rapid and sustainable economic growth, policy interventions that strike a balance between gains and losses, must be prioritised. Trade liberalisation generally boosts economic growth, but the extent of this effect depends heavily on the presence of complementary policies and the quality of institutions. The positive effects of trade

liberalisation on the economy and income are gradual rather than immediate (Wacziarg and Welch, 2008). Aghion (2005) assumes that trade liberalisation raises income levels more effectively when combined with financial sector reforms and institutional improvements.

From a dynamic perspective, economic development is critical to long-term poverty reduction, and it is assumed that trade liberalisation will lead to the productivity gains needed to sustain growth. Greater investment incentives, economies of scale and competition, a curtailment of rent-seeking activities supported by trade restrictions, and an openness to innovations are all benefits of freer trade (Berg and Krueger, 2003; Grossman and Helpman, 1991; Lucas, 1988). However, in addition to influencing cultural standards and lifestyle trends (e.g. eating and smoking habits), market globalisation can also have negative effects on productivity and health (Méndez and Popkin, 2004; Yach et al., 2007).

3.2.4. Criticisms and Controversies of Trade and Poverty

Recent literature continues to emphasise that trade's aggregate gains can coexist with adverse distributional effects where labour-market adjustment is constrained. For South Africa, evidence indicates that trade exposure has been associated with widening wage disparities between skilled and low-skilled workers, implying that trade liberalisation and openness can transmit through inequality channels even when macroeconomic performance improves (Mazorodze, 2021). Related cross-country work further suggests that employment and wage responses to trade shocks depend on domestic characteristics such as educational attainment and adjustment capacity, reinforcing that pro-poor outcomes are conditional rather than automatic (Beaton, Cerra & Hadzi-Vaskov, 2021).

In addition, South Africa's informal economy is heterogeneous and does not always absorb labour quickly during shocks, implying that displacement effects associated with trade exposure can persist when transitions into informal work are limited or segmented (Shah, 2022; Foster, 2023). These realities support a more cautious reading of trade liberalisation outcomes, especially where poverty is regionally concentrated and labour markets are structurally constrained.

3.2.4.1. Introduction and Theoretical Perspectives on Trade Liberalisation

According to Dun and Mtti (2004), trade can help countries to specialise and expand their comparative advantages. It can also help achieve economies of scale by expanding production in competitive sectors, thereby reducing average production costs as output increases. As a country exploits its economic heritage, trade significantly improves overall prosperity.

Trade liberalisation also has a positive effect when combined with other policies that promote greater use of the market, reduce arbitrary government intervention, more competition and stability in the economy. Notwithstanding the last point, which is most likely necessary for the long-term achievement of these goals, an open trade policy should be seen as the main driver of economic progress (Gundu, 2013). Openness plays a role in attracting FDI, which in turn can boost domestic investment and lead to job creation and economic growth, thus contributing to poverty reduction. When financial markets are well developed, financial openness also helps to strengthen domestic financial markets, which in turn improves market efficiency through lower costs and better allocation of resources (Obstfeld and Rogoff, 1996; Sharer and Sorsa, 1998).

3.2.4.2. Trade Liberalisation and Poverty Reduction

Another argument put forward by the South African Department for International Development (2005) is that the inability to trade is a major cause of economic poverty for many people; therefore, trade is an important route out of poverty. Furthermore, the literature on trade liberalisation places a strong emphasis on eliminating market distortions, such as trade barriers and inefficiencies, which benefits both international trade and domestic firms. As the poor are helped by these developments, it is assumed that poverty will decline over time. The argument also emphasises how trade affects growth in the short, medium and long term. As a result, the impact on growth will increase income, which in turn can help reduce poverty. Therefore, the link between trade and poverty will be the focus of the theory (Winters, McCulloch and McKay, 2004).

3.2.4.3. Challenges and Negative Impacts of Trade Liberalisation

Trade liberalisation has been identified as a potential mechanism for reducing inequality in developing countries, particularly by increasing the demand for unskilled labour. However, it is important to note that in some countries, there is a possibility that the disparity in salary between skilled and unskilled workers will persist following trade liberalisation. This is primarily because individuals lacking formal education and social privilege often possess limited access to crucial information necessary to navigate the intricacies of various economic sectors (Ghose, 2000).

Nissanke and Thorbecke (2004) contend that, while trade liberalisation is imperative for effective development, it is insufficient to achieve the ultimate objective of poverty reduction. This is because an increase in trade liberalisation can be associated with economic instability and disruptions, which in turn have the potential to exacerbate poverty, even if only

temporarily. A notable example of this phenomenon is provided by the Asian Financial Crisis (AFC), which began in July 1997 and led to significant financial turbulence, currency devaluations and economic downturns across several East and Southeast Asian nations (Basri, 2013). In response, numerous countries initiated economic reforms with the aim of liberalising their economies, enhancing their regulatory frameworks, and attracting foreign investment (Jackson, 2018). However, it should be noted that trade policies and the liberalisation of trade do not necessarily guarantee that nations will experience a reduction in poverty levels (Dowrick and DeLong, 2003). The hypothesis that trade liberalisation is beneficial to the poor is not refuted by the evidence, yet it is important to acknowledge that trade liberalisation alone is not sufficient to ensure positive outcomes. The effect of trade liberalisation on poverty reduction remains conceptually unclear.

Binswanger and Lutz (2000) furthermore suggest that harmful trade policies substantially negate the aid provided by rich countries. However, Oxfam (2002) argues that trade has an enormous potential to lift people out of poverty, noting that when rich countries lock poor people out of their markets, they close the door to an escape route from poverty. However, for trade to have a substantial poverty-reducing effect, it must be complemented by other policies that should be integrated into a nation's development strategy. These should maximise the link between trade and poverty, as well as mainstream development and poverty alleviation into trade policy negotiations that can affect policy reforms (Oyejide, 2001; Winters, 2002).

Despite the arguments advanced against the connection between trade liberalisation and the decrease in poverty, it is important to exercise caution when inferring policy implications from these studies. For instance, Age'nor's (2002) policy conclusion is based on the idea that if skill-based wage differences widen, investment in human capital will naturally increase. Nonetheless, even if such a human capital investment took place, it might be some time before low-income nations' levels of poverty significantly decreased. Consequently, substantial public investment in skill development is likely to be essential for ensuring such outcomes during trade liberalisation. The poor should thus be shielded from the harmful consequences of globalisation in developing nations (or those that have not yet crossed the critical threshold) through a variety of social protection institutions and redistributive policies.

However, Aisbett, Harrison and Zwane (2007) and Nissanke and Thorbecke (2004) have cautioned that evaluating the trade-poverty nexus using cross-country studies remains complex. The reasons they postulate for this complexity include the challenge of finding a precise measure for trade liberalisation and poverty, data associated with incomes, and challenges pertaining to the definitions, and heterogeneity across different segments of

populations. Milanovic (2002) for example found that trade openness causes individual countries' income distribution to deteriorate before improving, with the result that households experience poverty before their incomes rise. The impact of openness on income distribution is also dependent on the poverty level of the nation. Milanovic (2002) argues that this is because openness benefits those with basic and higher education while reducing the share of income of those without education. It is only when universal access to basic education is achieved, including among the economically disadvantaged, that openness can be expected to equalise income.

Another commonly held view is that trade liberalisation increases the risks faced by low-income households, increases their susceptibility to external shocks, and has an impact on average income. According to the World Bank (2001), vulnerability is a vital component of poverty and a serious concern for the poor; nevertheless, despite their obvious relationship, poverty and vulnerability may not necessarily go hand in hand. Vulnerability is inherently dynamic and stochastic, whereas poverty is a measure of well-being status. Pritchett, Suryahadi and Sumarto (2000) establish the uncertainty as well as its level and define vulnerability as persons having a high likelihood of living below the poverty line.

Kanbur (2001) initially observed that proponents of trade liberalisation are more concerned about the long term, while critics of trade liberalisation concentrate on the shorter-term effects. Despite the overall decrease in global poverty, some disadvantaged subgroups have still suffered losses because of trade liberalisation. It is expected to reduce poverty if one adopts the idea that trade promotes economic growth rather than inequality. However, if the benefits of trade accrue to non-poor individuals, it can negatively impact the economically disadvantaged (Ravallion, 2004). The tendency for access to new technologies to favour educated, skilled, and competent workers over uneducated labour lends credence to this assertion. Ravallion (2004) and Hertel and Reimer (2004) propose that fluctuations in reported poverty rates can be predominantly ascribed to increases in average earnings and consumption.

In relation to the growth-poverty nexus, the significance of income redistribution has been highlighted. Growth alone has been demonstrated to be incapable of reducing poverty to a significant extent (Chen and Ravallion, 2001a; Sala-i-Martin, 2002). This is because changes in the distribution of income may still be a substantial factor in the variations in poverty among various countries, nevertheless higher economic growth is linked to a worsening of the income distribution.

However, an alternative viewpoint posits that trade liberalisation has the potential to exacerbate poverty. As trade liberalisation increases, the government's revenue from tariffs declines, leading to a reduction in public expenditure on areas such as social assistance and education. This, in turn, results in an increase in poverty, and experiments have provided support for this claim. Naranpanawa and Arora (2014) for instance posit that trade liberalisation increases the incomes of those residing in affluent areas whilst decreasing those in impoverished areas, thereby exacerbating poverty in the latter. A substantial number of academics also contend that trade liberalisation exacerbates poverty by accelerating technical progress. For instance, Gaddis and Pieters' (2014) study in Brazil revealed that trade liberalisation leads to low-skilled employees experiencing a decline in income. Furthermore, Ghosh and Whalley (2008) and Acemoglu, Autor and Lyle (2012) posit that trade liberalisation encourages skill-biased technological change (SBTC). This in turn, results in a rise in the demand for highly skilled workers and a decrease in the demand for less skilled workers. Consequently, it can be concluded that trade liberalisation, by accelerating technological change, will exacerbate poverty.

While it is frequently linked with accelerated economic growth, trade liberalisation does not guarantee success in poverty alleviation. For instance, if a trade-openness-based growth strategy exacerbates income inequality among lower-income households, it may not have a substantial impact on poverty reduction (Bourguignon, 2004; Ravallion, 2012). In such scenarios, an inward-orientation strategy is also crucial to ensure that growth is sufficiently rapid and inclusive to translate into tangible benefits for the impoverished (Rodrik, 1997). Nevertheless, the political viability of this form of uneven growth is impeded by the fact that the distributional aspect of economic growth is just as important as its pace of expansion (Bourguignon, 2004; Rodríguez and Rodrik, 2000).

3.2.4.4. The Three Main Ways Trade Liberalisation Reduces Poverty

Trade liberalisation can reduce poverty in three primary ways. The first effect is that decreased tariffs may help consumers by boosting their consumer surplus. The second effect is that producers suffer since the decreased tariffs lower producer surplus. The third effect is that tariff reductions decrease the government's tax collection and inflict societal damage (Richardson, 1995; Freund, 2000; Salvatore, 2014).

However, there are various criticisms of the effectiveness of trade liberalisation in eradicating poverty. First, previous studies tended to concentrate more on the effects on growth than the effects on poverty. Second, Bergh and Nilsson (2014) argue that most studies fail to account

for any endogeneity that can result from using indicators of globalisation and economic expansion and ultimately poverty alleviation. Third, the concept of poverty remains multifaceted, which creates issues because there is still disagreement over how to quantify it (Ha and Cain, 2017). Fourth, despite the introduction of more suitable measures, most earlier studies still utilised trade integration (trade as a percentage of GDP) as a measure of globalisation. Moreover, regarding methodological aspects, some previous studies have used trade integration as a measure of trade liberalisation, notwithstanding the introduction of better-suited measures.

3.3. Theoretical Link between Poverty and Economic Variables

Poverty is thus an issue with socio-economic dimensions that affects millions worldwide. It is not only a consequence of underdevelopment but also an obstacle to the accomplishment of sustainable economic growth and social stability. Various economic factors that either alleviate or exacerbate poverty are broadly highlighted in economic theory; in this list, foreign direct investment (*FDI*), inflation rate (*INFLRATE*), unemployment rate (*UNEMPLRATE*), and GDP per capita growth (*GDPPCG*) are important factors. The interactions between these variables may thus advance or hinder a country's poverty alleviation efforts.

3.3.1. FDI and Poverty

FDIs are the most significant factors in affecting the growth and development of economies, especially in developing countries. FDI generates jobs, enhances productivity, sets up human capital, and transfers technologies. Theoretically, these impacts may bring poverty reduction in the country. According to the neoclassical growth theory, FDI enhances capital accumulation, one of the major drivers for economic growth, which increases national income, helping reduce poverty by raising the income levels of the population (Solow, 1956).

Yet the relationship between FDI and poverty reduction is not always straightforward. On the contrary, a dependency theory states that sometimes even FDI generates poverty due to the exploitation of resources or repressing local industries. If foreign firms set up profit extraction without reinvestment in the local economy or do not create significant employment, it is likely that benefits from FDI may not percolate to a larger population but increase income inequality and poverty (Cardoso, 1977).

Broadly generalisation though, structuralists argue that the pattern of FDI affects their poverty propensity. FDI targeted at sectors that create jobs like manufacturing and services should be more poverty-reducing than FDI flows to extractive industries (Akyüz, 2005). In this regard,

while FDI is a possible instrument for poverty alleviation, it is not given that the more private investment there is in those countries, the better the situation. Ultimately, the type of investment and the institutional environment in which the investment takes place are the determining factors.

Empirical evidence further suggests that the relationship between foreign direct investment and poverty may be bidirectional rather than unidirectional. Using a Generalised Methods of Moments (GMM) approach, Soumaré (2015) found evidence of bidirectional causality between FDI inflows and poverty levels in North African countries during the period 1985–2010. This implies that while FDI can influence poverty outcomes, existing poverty conditions and institutional quality may also shape the magnitude and direction of FDI inflows. These findings reinforce the argument that the poverty-reducing potential of FDI is highly contingent on domestic structural conditions, particularly governance quality, absorptive capacity, and labour-market linkages.

3.3.2. Consumer Price Index and Poverty

The Consumer Price Index (CPI), a measure of inflation rate, interacts with poverty dynamics by showing the real purchasing power of households, particularly the poor who allocate a substantial share of income to necessities. Elevated inflation erodes real incomes and savings, disproportionately impacting low-income groups and potentially exacerbating poverty if wage adjustments and social protections do not keep pace (International Monetary Fund, 2001). Thus, macroeconomic stability characterised by controlled inflation is critical for ensuring that gains from economic growth translate into meaningful poverty reduction. Additionally, stable and low inflation may help create a predictable macroeconomic environment conducive to investment and growth, which supports poverty reduction (Dornbusch, Fischer and Startz 2014).

3.3.3. Unemployment and Poverty

The relationship between unemployment and poverty is direct and well established in labour economics literature. High unemployment rates imply a lack of income-generating opportunities, which reduces household income and leads to higher poverty incidence. In economies with weak social safety nets, the unemployed face greater risks of falling below poverty lines (Kingdon and Knight 2004). Unemployment, particularly when widespread, directly contributes to poverty by depriving individuals of stable earnings, which limits their purchasing power and access to essential goods and services such as food, healthcare, and education (Blakely and Leigh, 2013). The absence of employment opportunities further increases economic vulnerability and social exclusion, creating a cycle where poverty and

unemployment reinforce each other (Morduch and Sicular, 2002). Moreover, persistent unemployment may generate long-term poverty through skill erosion and social exclusion (Sen, 1997). In contrast, employment growth, particularly in formal and labour-intensive sectors, is considered the most effective tool for sustained poverty alleviation (Fields, 2011). Reducing unemployment is thus critical to poverty alleviation. Employment offers not only income but also social benefits that strengthen human capital and allow individuals to escape poverty traps. Furthermore, the existence of decent work, characterised by adequate wages, job security, and safe working conditions, is essential for translating employment gains into sustainable poverty reduction (Dasgupta et al, 2017). Moreover, certain economic theories emphasize that structural unemployment can exacerbate poverty by limiting access to labour markets for vulnerable groups, such as youth, women, and marginalized populations, necessitating targeted interventions (Kanbur, 2014).

3.3.4. GDP per Capita and Poverty

Quite commonly, the GDP per capita is one of the indicators considered when measuring the mean output of the economy of a country for an individual. The logic behind this is that a country with a high GDP per capita will typically exhibit a better standard of living and lower levels of poverty. In this context, the Solow-Swan economic growth model (1956) introduces the idea that economic growth which increases GDP per capita leads to reduced poverty through higher incomes and better access to basic goods and services for people.

Raising GDP per capita will mean great things for poverty reduction, but that is where income inequality comes in, making all the difference when translating the benefits in terms of poverty. According to the Kuznets curve hypothesis, income inequality rises when income starts increasing initially in the early stage of economic growth but falls after a certain threshold of income per capita (Kuznets 1955). Thus, increases in GDP per capita can abolish poverty but at the same time may worsen inequality.

On the other hand, there are other structural changes in the economy-from agricultural to industrial or from industrial to service, which cause GDP per capita to have different effects on poverty. In economies where the growth is concentrated in capital-intensive sectors that do not generate much direct employment, it is possible that GDP per capita could rise but poverty would remain high (Ravallion, 2012).

3.4. Empirical Review: Trade Liberalisation and Poverty

Empirical evidence on the relationship between trade liberalisation and poverty reduction remains mixed across countries, regions, and methodological approaches. While numerous

studies find poverty reducing effects, others report adverse or statistically insignificant outcomes. These divergent results reflect differences in poverty measurement, transmission channels, institutional quality, sectoral composition, and econometric identification strategies, particularly endogeneity and adjustment dynamics (Rodriguez and Rodrik, 2000; Ravallion, 2012).

3.4.1. Evidence that trade liberalisation reduces poverty

A substantial strand of the literature finds that trade liberalisation contributes to poverty reduction through growth, labour market, and consumer price channels. For example, Qadir et al. (2000) find poverty reducing effects in Pakistan using OLS between 1963–1994. Moreover, Dollar and Kraay (2001) employ cross country regression analysis comparing developing and rich economies between 1975–79 and 1995–97, concluding that trade liberalisation supports poverty reduction indirectly through growth, not as a guaranteed direct effect. Similarly, Santarelli and Figini (2002) apply panel regression for developing countries over 1970–1998, finding that trade liberalisation is associated with lower poverty.

Model-based country studies also report poverty reducing outcomes. For instance, Ianchovichina and Martin (2002) use a CGE model for Mexico based on the 1996 household income and expenditure survey and find that liberalisation benefits poorer groups more than wealthier households. In another study, Bussolo and Lay (2003) apply a CGE model to Colombia (tariff cuts in the 1990s) and find rural poverty declines due to rising unskilled wages and movement from informal to formal employment. Consistent with this, using a multi-country CGE framework based on 1997 data, Hertel et al. (2003) find short-run poverty reductions in Brazil and Chile, particularly for agriculture-specialised households benefiting from higher agricultural returns.

More recent studies continue to support poverty reducing effects. McCaig (2011) uses Vietnam household survey data (VHLSS 2002, poverty change 2002–2004) and shows that provinces facing larger US tariff reductions experience greater poverty declines. Equally, Le, Su, and Nguyen (2019) employ panel fixed effects, two step panel quantile regressions, and cross-sectional OLS/quantile regressions for Vietnam and conclude that trade liberalisation improves employment and welfare, reducing poverty. Moreover, Wang and Hu (2018) use a probit model with China household survey data (2014) covering rural populations across 29 provinces and find that openness lowers the probability of rural poverty.

In Sub-Saharan Africa, Anetor, Esho and Verhoef (2020) apply FGLS for 1990–2017 and find trade reduces poverty (especially in low-income countries). Similarly, Onakoya, Johnson and

Ogundajo (2019) use panel methods including pooled OLS and Johansen cointegration for 21 African countries (2005–2014) and find trade liberalisation significantly lowers poverty.

Across these studies, poverty reducing effects are most evident where trade reforms operate through labour absorption (higher unskilled wages / employment expansion) or consumer price effects (improved purchasing power). CGE and micro simulation studies are especially useful for identifying how the gains are transmitted (wages, sectoral returns, informal to formal shifts). By contrast, reduced form regressions often capture average associations but may be sensitive to poverty measurement choices and identification challenges, underscoring why results vary across designs.

3.4.2. Evidence of mixed or adverse poverty outcomes

Another strand shows mixed or adverse outcomes, often reflecting adjustment costs, sectoral bias, or weak transmission of productivity gains into wages. Annabi et al. (2005) employ a sequential dynamic CGE micro simulation using a 1996 SAM and a 1995 household survey (3,278 households) for Senegal and find a short-run poverty increase followed by long-run poverty reduction. Furthermore, Cororaton, Cockburn and Corong (2006) use a CGE micro simulation for the Philippines (1994–2000) and find that the poorest can become poorer due to widening inequality and deeper poverty severity. Additionally, Castilho, Menéndez and Sztulman (2012) analyse microdata for Brazilian states (1987–2005) and find that liberalisation increases urban poverty while rural poverty effects are weak, with some evidence of declining rural inequality. Moreover, Sunge, Kumbula and Makamba (2021) use GMM for Sub-Saharan Africa (2003–2017) and report poverty reducing effects depending on trade composition.

Panel evidence also indicates heterogeneous outcomes across time and country groups. For instance, Osinubi (2020) uses dynamic GMM for MINT economies (1980–2018) and finds that globalisation increases poverty in Nigeria, Türkiye and Indonesia, while, in contrast, it reduces poverty in Mexico. Similarly, however, Kelbore (2015) uses PVAR for 43 African countries (1981–2010) and finds that trade liberalisation increases poverty. By contrast, Yameogo and Omojolaibi (2021) employ GMM, panel VAR and panel ARDL for 40 Sub-Saharan African countries (1990–2017) and show that trade liberalisation reduces poverty in the short run, but, nevertheless, increases it in the long run, particularly in the presence of weak institutions and limited absorptive capacity.

Mixed and adverse findings often arise where trade liberalisation triggers job displacement in import competing sectors, where productivity gains are not shared via wages, or where trade

patterns are capital and skill intensive. These studies highlight that trade can raise aggregate efficiency while worsening poverty for groups or regions (e.g., rural vs urban, informal vs formal workers), especially when institutions and labour markets do not support adjustment and reallocation.

3.4.3. Studies reporting weak or no relationship

A third strand of the literature finds weak, statistically insignificant, or context-dependent relationships between trade liberalisation and poverty reduction. For instance, Trabelsi and Liouane (2013), examining 106 developing countries over the period 1980–2010, find that poverty outcomes are not strongly affected by trade liberalisation across specifications. Similarly, Khan and Bashir (2012) apply panel regressions using fixed and random effects models and similarly report weak poverty impacts. In a country-specific context, Akinlo, Adeleke and Aremo (2013), focusing on Nigeria, employ GMM techniques for the period 1980–2009 and find that trade liberalisation does not significantly reduce poverty. In line with this, Yusuf, Malarvizhi and Khin (2013), using an ARDL framework for 1980–2001, conclude that liberalisation is unlikely to reduce poverty. At a broader regional level, Arce, Mahía and Medina (2014), in a multi-country CGE analysis calibrated to a Social Accounting Matrix, find minimal or equivocal poverty effects for Sub-Saharan Africa. Further supporting this view, Gries, Kraft and Meierriecks (2009), who apply the Hsiao–Granger causality approach for 16 African economies, indicate weak long-run links between trade, finance and growth, implying limited scope for poverty reduction through the growth channel. However, Topalova (2005), using OLS for India (1983–2000), shows that productivity gains in more liberalised industries did not translate into worker benefits sufficient to offset lower factor returns in exposed districts.

Three explanations repeatedly account for weak or null results. First, poverty measurement matters: results differ depending on whether poverty is measured using national poverty lines, international lines, or alternative thresholds. For instance, Selim and Kaya (2024) show that conclusions can change when comparing national poverty lines with World Bank thresholds using heterogeneous panel analysis for 176 countries (2005–2018). Second, endogeneity and reverse causality may obscure the relationship, since trade liberalisation may respond to growth and broader structural reforms rather than drive them. Consequently, empirical designs that do not explicitly address this issue often produce statistically insignificant coefficients (Rodriguez and Rodrik, 2000). Third, more fundamentally, weak institutions, limited labour absorption, and low productive capacity may constrain the transmission of trade gains to the broader population. As a result, trade expansion may fail to translate into broad-based welfare

improvements, thereby producing weak or inconsistent poverty outcomes even in the presence of increased openness.

3.4.4. Evidence from South Africa

South African evidence similarly emphasises dynamic adjustment and the role of complementary conditions. For instance, Mabugu and Chitiga (2007) use a dynamic microsimulation CGE linked to a household survey (2000) and find that removing import tariffs can be poverty-increasing in the short run, but, over time, poverty-reducing through capital accumulation. Moreover, combining tariff removal with a rise in total factor productivity further strengthens both short- and long-run poverty reduction outcomes. In a similar vein, Herault (2007) combines a micro-simulation model with a macro-oriented CGE, using South African household (IES 2000) and labour data (LFS September 2000), and identifies poverty reductions alongside notable distributional trade-offs. Likewise, Thurlow (2007) applies general equilibrium and microsimulation models, using the 1995 IES and 1995 OHS, and concludes that liberalisation played a protective role by helping to shield households from falling into poverty during the 1990s.

Time series evidence also supports long-run poverty reduction via growth channels. For example, Polat et al. (2015) apply the Bayer–Hanck combined cointegration approach using 1970–2011 data and find that openness reduces poverty through long-run growth effects. Similarly, Maluleke and Vacu Nqila (2024) use ARDL bound testing with annual data (1990–2021) and likewise find that trade openness reduces poverty in both the short run and the long run under certain specifications.

Table 3:1: An overview of the empirical studies on trade liberalisation and poverty reduction: positive impact

An overview of studies showing that trade liberalisation reduces poverty		
Author(s)	Region/country and period	Results
Qadir et. al. (2000)	Pakistan 1963–1994	Trade liberalisation reduced poverty
Dollar & Kraay (2001)	Cross-country (developing vs rich), 1975–79 and 1995–97	Trade liberalisation supports poverty reduction indirectly through growth (not a guaranteed direct effect).
Santarelli & Figini (2002)	Developing countries, 1970–1998	Trade liberalisation associated with lower poverty (panel regression).

An overview of studies showing that trade liberalisation reduces poverty		
Author(s)	Region/country and period	Results
Ianchovichina & Martin (2002)	Mexico, based on 1996 household survey	Liberalisation benefited poorer groups more than wealthier households (CGE), implying poverty reduction for poorer groups.
Bussolo & Lay (2003)	Colombia, tariff cuts in the 1990s	Rural poverty declined due to rising unskilled wages and shifts from informal to formal work (CGE).
Hertel et al. (2003)	Brazil & Chile, based on 1997 data	Short-run poverty reductions; largest gains for agriculture-specialised households (multi-country CGE).
McCaig (2011)	Vietnam, VHLSS 2002; poverty change 2002–2004	Greater exposure to US tariff reductions linked to larger poverty declines (province-level).
Wang & Hu (2018)	China, rural households across 29 provinces, 2014	Openness lowers probability of rural poverty (probit).
Le, Su & Nguyen (2019)	Vietnam (panel + quantile methods; period not stated in your excerpt)	Trade liberalisation improves employment/welfare, reducing poverty.
Anetor, Esho & Verhoef (2020)	Sub-Saharan Africa, 1990–2017	Trade reduces poverty, especially in low-income countries (FGLS).
Onakoya, Johnson & Ogundajo (2019)	21 African countries, 2005–2014	Trade liberalisation significantly lowers poverty (panel methods incl. cointegration).
Polat et al. (2015) (<i>South Africa</i>)	South Africa, 1970–2011	Openness reduces poverty through long-run growth (cointegration).
Maluleke & Vacu Nqila (2024) (<i>South Africa</i>)	South Africa, 1990–2021	Trade liberalisation reduces poverty in short and long-run under certain specifications (ARDL).
Thurlow (2007) (<i>South Africa</i>)	South Africa, based on 1995 IES & 1995 OHS	Liberalisation helped protect households from falling into poverty during the 1990s (GE + microsimulation).

Overall, the studies in Table 3.1 show that trade liberalisation is generally associated with poverty reduction, although the strength and channels of this relationship vary across countries and methodologies. Evidence suggests that the effect operates mainly through indirect mechanisms, including economic growth, employment expansion, and improved

consumer welfare. CGE and micro-simulation studies further highlight transmission through rising unskilled wages, sectoral reallocation, and lower consumer prices. However, these effects are not automatic and depend on structural factors such as labour market flexibility and the ability of economies to absorb displaced workers.

Table 3:2: An overview of the empirical studies on trade liberalisation and poverty reduction: mixed results or adverse impact

An overview of studies showing mixed results or adverse impact on the impact of trade liberalisation on poverty		
Author(s)	Region/country and period	Results
Annabi et al. (2005)	Senegal, 1996 SAM + 1995 household survey (3,278 households)	Short-run poverty increases, but long-run poverty falls (dynamic CGE microsimulation).
Cororaton, Cockburn & Corong (2006)	Philippines, 1994–2000	Poorest can become poorer due to inequality widening and deeper poverty severity (CGE microsimulation).
Castilho, Menéndez & Sztulman (2012)	Brazil (states), 1987–2005	Liberalisation increased urban poverty; rural effects weak; some evidence of declining rural inequality (heterogeneous).
Osinubi (2020)	MINT economies, 1980–2018	Globalisation increased poverty in Nigeria, Türkiye, Indonesia but reduced it in Mexico (mixed across countries).
Kelbore (2015)	43 African countries, 1981–2010	Trade liberalisation increased poverty (PVAR).
Yameogo & Omojolaibi (2021)	40 Sub-Saharan African countries, 1990–2017	Trade liberalisation reduces poverty in short run but increases it in long run under weak institutions/absorptive capacity (GMM/PVAR/ARDL).
Mabugu & Chitiga (2007) (South Africa)	South Africa, linked to household survey (2000)	Removing tariffs can be poverty-increasing short run but poverty-reducing over time; stronger reductions with TFP increases (dynamic microsimulation CGE).
Herault (2007) (South Africa)	South Africa, IES 2000 + LFS Sep 2000	Poverty reductions occur alongside distributional trade-offs (CGE + microsimulation).

An overview of studies showing mixed results or adverse impact on the impact of trade liberalisation on poverty		
Author(s)	Region/country and period	Results
Sunge, Kumbula & Makamba (2021)	Sub-Saharan Africa, 2003–2017	Poverty-reducing effects depend on trade composition (GMM) → outcome is conditional/heterogeneous.

Table 3.2 highlights the heterogeneous nature of the trade–poverty relationship, with outcomes differing across countries, time horizons, and population groups. Several studies show that liberalisation can increase poverty in the short run due to adjustment costs, particularly where labour reallocation is constrained. Others point to worsening income distribution where gains are not transmitted through wages. Overall, the evidence suggests that poverty outcomes depend on country-specific factors such as institutional quality, absorptive capacity, and trade composition, underscoring the need for complementary policies to ensure broadly shared gains.

Table 3:3: An overview of the empirical studies on trade liberalisation and poverty reduction: weak or no relationship

An overview of studies showing weak or no relationship between trade liberalisation and poverty		
Author(s)	Region/country and period	Results
Trabelsi & Liouane (2013)	106 developing countries, 1980–2010	Poverty outcomes not strongly or robustly affected across specifications (weak/insignificant).
Khan & Bashir (2012)	(Coverage not specified in your excerpt)	Panel FE/RE results indicate weak poverty impacts.
Akinlo, Adeleke & Aremo (2013)	Nigeria, 1980–2009	Trade liberalisation does not significantly reduce poverty (GMM).
Yusuf, Malarvizhi & Khin (2013)	Nigeria, 1980–2001	Liberalisation unlikely to reduce poverty (ARDL).
Arce, Mahía & Medina (2014)	Sub-Saharan Africa (CGE calibrated to SAM; period not specified in excerpt)	Minimal/equivocal poverty effects (weak/uncertain).
Gries, Kraft & Meierriecks (2009)	16 African economies (period not specified in excerpt)	Weak long-run links between trade, finance and growth → implies limited poverty reduction via growth channel.

An overview of studies showing weak or no relationship between trade liberalisation and poverty		
Author(s)	Region/country and period	Results
Topalova (2005)	India, 1983–2000	Productivity gains in liberalised industries did not translate into worker benefits sufficient to offset negative factor-return effects → limited poverty improvement.

The studies in Table 3.3 indicate that the relationship between trade liberalisation and poverty can be weak or statistically insignificant in some contexts. This is often linked to methodological challenges such as endogeneity and model sensitivity, as well as weak transmission mechanisms between trade, growth, and household welfare. In addition, structural constraints, including limited labour absorption and institutional weaknesses can prevent trade-induced gains from translating into meaningful poverty reduction.

3.4.5. Synthesis of empirical evidence on trade liberalisation and poverty

Overall, the empirical evidence indicates that trade liberalisation can reduce poverty, however its impact is neither uniform nor automatic. Instead, the direction and magnitude of its effects depend critically on country-specific factors, including institutional quality, labour market dynamics, and the extent to which growth translates into broad-based income gains. This highlights the importance of contextual conditions in shaping the trade–poverty relationship.

3.5. Addressing the gaps in literature

The review of empirical studies in Section 3.4 demonstrates that significant ambiguities remain in understanding the trade liberalisation–poverty nexus, particularly for developing and Sub-Saharan African economies. First, despite an extensive body of work, empirical findings remain highly mixed, with studies reporting poverty-reducing, poverty-increasing, and statistically insignificant effects of trade liberalisation. This heterogeneity is frequently attributed to differences in poverty measurement, labour-market structure, institutional quality, and econometric methodology. However, several studies rely on a single poverty indicator, which limits the ability to capture heterogeneous welfare responses across different levels of deprivation.

Second, a large portion of the literature focuses either on long-run equilibrium relationships or short-run impacts, without explicitly modelling the dynamic adjustment process through which trade effects materialise. Evidence from CGE, micro-simulation, and panel studies suggests

that trade liberalisation can impose short-run adjustment costs while generating long-run poverty reduction, yet many time-series studies is unable to distinguish these effects adequately. This limitation is particularly important in contexts characterised by high unemployment, informality, and slow labour absorption, such as South Africa.

Third, endogeneity and reverse causality remain persistent methodological concerns in the literature. In many cross-country and panel studies, trade liberalisation may respond to growth, institutional reform, or structural transformation rather than act as an exogenous driver of poverty reduction. Studies that do not explicitly address these issues often report weak or insignificant relationships, highlighting the need for empirical strategies capable of capturing both short-run dynamics and long-run relationships within a coherent framework.

Against this background, the current study makes three main contributions. The primary contribution is that it examines the trade–poverty relationship in South Africa using multiple official poverty lines. These include the food poverty line, lower-bound poverty line, and upper-bound poverty line, thereby capturing heterogeneous poverty outcomes that are overlooked in studies relying on a single poverty measure. Moreover, the study adopts a dynamic econometric framework, allowing short-run adjustment effects to be distinguished from long-run equilibrium relationships, which is essential given the empirical evidence of delayed and non-linear poverty responses to trade liberalisation. Lastly, the study also incorporates key macroeconomic transmission variables, GDP per capita growth, unemployment, inflation, and foreign direct investment, together with a global financial crisis dummy capturing the 2008–2009 shock. This approach allows modelling of both structural channels and exogenous shocks through which trade liberalisation affects poverty in a structurally constrained labour-market environment.

In doing so, the study directly addresses gaps identified in the empirical literature and aligns the empirical strategy with the research questions, which seek to determine whether trade liberalisation reduces poverty in South Africa, through which channels, and over what time horizon.

3.6. Summary of the empirical literature

The empirical literature reviewed in this chapter has direct implications for the econometric specification adopted in this study. Evidence that the poverty effects of trade liberalisation evolve over time implies that a static framework would be inappropriate, necessitating a dynamic model capable of distinguishing short-run adjustment from long-run equilibrium effects. The empirical literature further demonstrates that poverty outcomes are shaped by

multiple transmission channels, including economic growth, labour-market conditions, price dynamics and capital flows. This motivates the inclusion of GDP per capita growth, unemployment, inflation and foreign direct investment to reduce omitted-variable bias.

In addition, several studies highlight the role of major macroeconomic disruptions in shaping poverty trajectories, justifying the inclusion of a global financial crisis dummy (DUM0809) to control for the 2008–2009 structural shock. Persistent concerns regarding endogeneity, mixed integration properties and reverse causality further support the use of an autoregressive distributed lag (ARDL) framework. This allows for joint estimation of short-run dynamics and long-run relationships while remaining valid under different orders of integration.

CHAPTER 4

METHODOLOGY

4.1. Introduction

This chapter focuses on the various of techniques employed in the current research to investigate trade liberalisation's association with poverty reduction in SA. The first section addresses model formulation, outlining the overall empirical model as well as the definition, measurement, and sources of data. The next section provides illustrations of the estimate methods and their specifications, which include the autoregressive distributed lag model for the cointegration test, the error correction model (ECM), and stationarity test approaches.

The autoregressive distributed lag (ARDL) bounds testing approach is particularly appropriate for this study given the time-series properties of the data and the study objectives. The variables used are expected to be a mixture of $I(0)$ and $I(1)$ processes, while the sample size for South Africa is relatively limited. Unlike alternative cointegration techniques, the ARDL framework accommodates mixed orders of integration and performs well in small samples. Importantly, it allows the simultaneous estimation of short-run dynamics and long-run relationships, which aligns with the study's objective of examining both immediate and persistent effects of trade liberalisation on poverty across different poverty thresholds.

4.2. Model specification

4.2.1. Specification of the General Empirical Model

This study adopts the model of Akmal et al. (2007), whose study investigated the effect of trade liberalisation on poverty, applying the Johansen Cointegration Techniques and Error Correction Method for long-run and short-run analyses, respectively. Furthermore, Akmal et al. (2007) analysed how poverty levels in Pakistan have changed over time, identifying patterns and shifts. Their model envisaged an inverse relationship between openness and poverty levels. In the present study, the dependent variable is poverty, measured using three official income-based poverty proxies: the upper-bound poverty line (POV1), lower-bound poverty line (POV2), and food poverty line (POV3).

Trade is included as the main independent variable as indicated in Equation 4.1. Furthermore, the initial model of Akmal et al. (2007) has been further modified to include inflation rate (*INFLRATE*) and unemployment rate (*UNEMPRATE*), respectively. A dummy variable (*DUM08_09*) was also included to account for the structural break associated with the 2008–2009 global financial crisis, which had significant macroeconomic implications for South Africa and could have influenced poverty dynamics. This approach is consistent with empirical

studies such as Narayan and Smyth (2006) and Pesaran and Shin (1999), who advocate for the inclusion of structural break dummies in time-series models to improve the robustness and stability of parameter estimates.

Based on theory and empirical evidence, trade liberalisation is expected to reduce poverty, implying a negative relationship between trade liberalisation and the poverty headcount ratios (POV1–POV3). Foreign direct investment and GDP per capita growth are similarly expected to reduce poverty. In contrast, higher inflation and unemployment are expected to increase poverty levels, reflecting the erosion of real incomes and limited employment opportunities.

In contrast to previous studies (for example, Odhiambo, 2009; Sunde, 2017; Vacu and Maluleka, 2024; Makhetha-Kosi et al, 2025), the current study estimates three income-based poverty models, each corresponding to a distinct official poverty threshold. Poverty is measured using the upper-bound poverty line, lower-bound poverty line and food poverty line, which capture different levels of deprivation within the population. This approach allows the analysis to assess how trade liberalisation affects poverty outcomes across varying depths of poverty rather than relying on a single poverty measure.

The specification of the general empirical model for the current study is:

$$POVERTY = F(TRADE, FDI, INFLRATE, UNEMPRATE, GDPPCG) \dots \dots \dots (4.1)$$

In Equation 4.1, poverty is measured by the poverty proxies, namely, the upper bound poverty line (POV1), lower bound poverty line (POV2) and food bound poverty line (POV3). Trade liberalisation is proxied by total trade as a share of GDP, FDI is measured by net inflows (total value of inward direct investment made by non-residents in the country minus outward direct investment made by residents in other countries) as a percentage of GDP. Inflation rate is measured by the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as annually. Unemployment rate is measured by the share of the labour force that is without work but available for and seeking employment. GDP per capita is measured by the gross domestic product divided by midyear population.

The underlying transmission mechanism is that trade liberalisation affects poverty through several interconnected channels. Trade liberalisation can influence household welfare by altering employment opportunities and wage dynamics through sectoral expansion or contraction, reducing consumer prices through increased import competition, and stimulating

productivity and growth via investment and efficiency gains (Winters, McCulloch and McKay, 2004). These effects operate alongside macroeconomic conditions such as foreign direct investment, inflation, unemployment and GDP per capita growth, which jointly determine how trade-related gains are transmitted to households living below the poverty thresholds (Ravallion, 2001a; Dollar and Kraay, 2002).

4.2.2. Variable: Definition and Measurements

4.2.2.1. Variable definition and measurement

The following descriptions accompany the variables of this study:

Food-Bound poverty line (FPL): This represents the smallest monetary amount required for an individual to purchase the basic food basket sufficient to meet minimum nutritional needs. People living below this line are regarded as being in extreme poverty (Stats SA, 2022). The FPL is measured by estimating the cost of a food basket meeting the daily energy requirement at average market prices, reflecting food cost only without non-food essentials.

Lower-Bound poverty line (LBPL): The Lower-bound Poverty Line incorporates both food and essential non-food needs, however, it assumes that households at this level must sacrifice part of their food expenditure to meet non-food requirements such as transport, housing, and utilities. LBPL extends the food poverty line by adding an allowance for basic non-food essentials but assumes some compromise on nutritional needs (Stats SA, 2022). The lower-bound poverty line is derived from the food poverty line plus a restricted allowance for non-food needs.

Upper-Bound poverty line (UBPL): This poverty line is the most comprehensive measure. It includes sufficient resources to cover both food and non-food needs without compromising food consumption. UBPL represents the monetary threshold where individuals meet both adequate nutrition and basic non-food essential needs without sacrificing either. It defines a basic but acceptable living standard covering food, clothing, shelter, and utilities. (Woolard and Leibbrandt, 2000; Stats SA, 2022).

Trade is a measure of trade openness used in the current study as a proxy for trade liberalisation. This is the commercial interchange of goods and services expressed as a percentage of GDP by imports and exports. Evidence demonstrates that removing trade restrictions can boost trade in many countries. As trade expands, consumption per capita may increase, lowering poverty (Pradhan and Mahesh, 2014). Regarding prior expectations, trade liberalisation is expected to reduce poverty, implying a negative association between trade openness and the poverty headcount ratios measured by POV1–POV3. FDI and GDP per

capita growth are similarly expected to reduce poverty (negative association), while higher inflation and unemployment are expected to increase poverty (positive association) across the poverty-line measures.

Foreign direct investment (FDI) is defined as net capital inflows expressed as a percentage of GDP. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors and is divided by GDP. According to theory, when FDI increases, employment and income improve, resulting in poverty reduction. Therefore, FDI is expected to have the potential to positively contribute to poverty reduction (Borensztein, De Gregorio and Lee, 1998). It is anticipated that the variable will have a negative coefficient when measured against POV1, POV2 and POV3.

Inflation rate as measured by the changes in the consumer price index, reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified yearly intervals. Inflation erodes real income, disproportionately harming the poor by increasing the cost of food, transport, and basic goods (Easterly and Fischer, 2001; Anyanwu, 2014). When the variable is assessed against POV1, POV2 and POV3, a positive coefficient is anticipated.

Unemployment rate measures the share of the labour force without work but available and actively seeking employment (World Bank, 2024). In South Africa, persistently high unemployment reduces household income and limits consumption capacity, thereby worsening poverty. Therefore, in this study, the unemployment rate is expected to increase poverty, implying a positive expected coefficient for poverty-line models (POV1-POV3).

GDP per Capita is a yearly percentage growth rate based on constant local currency, and it is also utilised as a control variable in the model to reflect the country's level of development. Sinaga (2020) demonstrates that per capita GDP has a detrimental, although minor, impact on poverty. Higher GDP per capita reflects economic growth and rising income, which reduces poverty through job creation and improved living standards (Ravallion and Chen, 1997; Kraay, 2006). The variable is expected to have a negative coefficient when measured against all poverty proxies (POV1, POV2 and POV3).

The variables used in this study are expressed in percentage form; therefore, the estimated coefficients are interpreted as percentage point changes rather than elasticities. Specifically,

the coefficients indicate the change in poverty associated with a one percentage point change in the explanatory variables.

Table 0.1: Variables, Definitions, measurements and sources

Variables	Description and priori expectation	Data Source
POV1	Upper-Bound Poverty line (<i>POV1</i>) represents sufficient resources for both adequate food intake and a broader basket of essential non-food items. Measured using the headcount ratio (percentage of population below upper-bound poverty line) (StatsSA, 2019). This poverty line is denominated in South African Rands (ZAR or “R”) (i.e. local currency).	Quantec EasyData
POV2	Lower-Bound Poverty line (<i>POV2</i>) represents the cost of basic food needs plus a minimal allowance for essential non-food items. Households must sacrifice some non-food needs to meet food requirements. Measured using the headcount ratio (percentage of population below lower-bound poverty line) (StatsSA, 2019). This poverty line is denominated in South African Rands (ZAR or “R”) (i.e. local currency).	Quantec EasyData
POV3	Food Poverty line (<i>POV3</i>) represents the level of consumption below which individuals are unable to meet minimum daily energy intake (caloric) requirements. This is also commonly referred to as the extreme poverty. Measured using the headcount ratio (percentage of population below food poverty line) (StatsSA, 2019). This poverty line is denominated in South African Rands (ZAR or “R”) (i.e. local currency).	Quantec EasyData
TRADE	Trade (TRADE) is used as a proxy for trade liberalisation and is measured as the sum of total imports and exports as a percentage of GDP. This measure of trade openness is widely used in empirical studies examining the trade–poverty relationship (World Bank, 2024; Pradhan & Mahesh, 2014). Greater trade openness is expected to have a negative effect on poverty levels by promoting economic growth, employment creation, and access to cheaper goods.	World Bank database

Variables	Description and priori expectation	Data Source
FDI	Net capital inflows as % of GDP based on constant local currency (World Bank, 2023). The variable is expected to have a negative effect on the poverty rate.	World Bank database
INFLRATE	Inflation as measured by changes in the consumer price index (CPI) reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services. This is based on constant local currency. According to Gnanngnon (2019), macroeconomic stability is measured by the inflation rate. The variable is expected to result in a decrease in a household's purchasing power, which will raise the poverty rate.	World Bank database
UNEMPRATE	The unemployment rate is defined as the percentage of the labour force that is without work but available for and actively seeking employment (World Bank, 2024). High unemployment levels imply that a significant portion of the working-age population is excluded from earning labour income, which directly constrains household consumption and raises poverty levels (Fields, 2011). As a result, a high unemployment rate is expected to raise poverty levels.	World Bank database
GDPPCG	Gross domestic product (GDP) per capita is described as GDP divided by the midyear population, expressed in current constant prices (World Bank, 2023). The variable <i>GDPPCG</i> represents the annual percentage growth rate of GDP per capita based on constant local currency. The relationship between GDP per capita and poverty is theoretically inverse (Dollar and Kraay, 2002).	World Bank database

4.3. Estimation methods

4.3.1. Correlation analysis

To assess the presence of multicollinearity among the explanatory variables, this study employs a correlation matrix analysis. Multicollinearity occurs when independent variables in a regression model are highly correlated, which may bias coefficient estimates, inflate

standard errors, and undermine the statistical validity of the results (Gujarati and Porter, 2009). The correlation matrix provides pairwise correlation coefficients between all regressors included in the ARDL models. According to econometric literature, correlation coefficients above 0.80 are generally considered indicative of potential multicollinearity concerns (Studenmund, 2014). Where correlations fall below this threshold, the likelihood of severe multicollinearity is reduced, although moderate collinearity may still be present.

4.3.2. Stationarity tests

The study tests the unit-root properties, hence, the stationarity of the variables before examining the nexus between trade liberalisation and the decrease of poverty. The unit root test is necessary because the study employs the autoregressive distributed lag model, which requires that the variables be of integration order zero or one, that is, $I(0)$ and $I(1)$ or a combination of both.

Three-unit root tests are used in this study. The Augmented Dickey-Fuller test (ADF) is the first unit root test; the Second Unit Root Test is the Phillips-Perron (PP) test; lastly to check for the structural breaks in the time series, the study employs the Zivot-Andrews (ZA) test. The ADF test, an enhanced variant of the Dickey-Fuller (DF) test that provides results on serial correlation, has been widely used to conduct the unit root test. Gujarati (2003), Mahadeva and Robinson (2004), and Asteriou and Hall (2011) state that this method uses the lagged value of the dependent variable in the equation to eliminate autocorrelation from the model, hence validating and guaranteeing stationarity.

4.3.3. Augmented Dickey-Fuller test

ADF tests determine if a time series has a unit root.

The following equation is used to estimate the ADF test with reference to Dickey and Fuller (1979):

$$\Delta POV_t = \alpha + \beta_{yt-1} + \delta_t + \sum_{i=1}^k \rho_i \Delta POV_{t-i} + \mu_t \dots \dots \dots (4.2)$$

Where α, β, δ and ρ are the estimated coefficients. $\Delta POV_t = (POV_t - POV_{t-1})$ while μ_t denotes the pure white noise error term and t is the trend variable. $\sum_{i=1}^k \rho_i \Delta POV_{t-i}$ are lagged differences. The number of lagged difference terms to be considered is determined empirically (Gujarati, 2003). The ADF test in Equation 4.2 assesses the null hypothesis that the time series is non-stationary (unit root is present):

$$H_0: \delta = 0$$

As opposed to the alternative hypothesis that the time series is stationary (no unit root is present):

$$H_1: \delta < 0$$

This led to several stationarity testing methods as stand-in statistical tests that can be applied when the ADF test yields inconsistent data, hence making the test inadequate (Dolado et al., 1990; Elder and Kennedy, 2001). There were several shortcomings with the ADF test. For instance, the lag length has an impact on this test. In a model, it introduces a higher-order regressive process. The data tends to reject the null hypothesis when its moving average is higher. To get consistent outcomes, additional work is needed, and there is ambiguity regarding how many lags should be included, as well as the version to employ, for example, whether to add the time trend and intercept (Schwert, 1986; Perron, 1989).

4.3.4. Phillips-Perron test

The PP test employs non-parametric statistical techniques without the inclusion of lag difference components, to deal with the challenge of serial correlation in the errors. Using a correction factor that calculates the error process's long-term disparity using a modified Newey-West formula, the problem of serial correlation between error terms is resolved by the PP test. For the disturbance term to satisfy the PP test, it does not need to be homogenous or serially uncorrelated. Based on Phillips and Perron (1988), the test permits dependency and heterogeneity of disturbances in the form of moving averages (MA) or autoregressive (AR).

Like the ADF, the PP test reveals whether a time series has a unit root. The test equation is expressed as:

$$\Delta POV_t = \alpha + \beta_{yt-1} + \delta_t + \sum_{i=1}^k \rho_i \Delta POV_{t-i} + \mu_t \dots \dots \dots (4.3)$$

To take any serial correlation in the error terms into consideration, the ADF test incorporates a lagged difference term of the dependent variables, which is the primary distinction between it and the PP test. To avoid serial correlation impacting the test statistic's asymptotic distribution, the PP test estimates and modifies the β_2 coefficient's t-ratio. Essentially, the PP test uses non-parametric statistical techniques to modify the test results, to compensate for serial correlation. Although small samples may reveal a difference due to the different methodologies used to account for serial correlation, the two tests are very equivalent in that they have the same asymptotic distribution (Gujarati, 2003). Consequently, the ADF test and the t-statistic are interpreted identically.

4.3.5. Zivot-Andrews (ZA) test

As stated by Zivot and Andrews (1992), adopting endogenously determined structural breaks could result in the rejection, or a minimum weakening, of the unit root hypothesis in certain instances. Hence, there is a significant difference between the ZA test and the PP test, where the former estimates the timing break, while an assumption about the timing break is made in the latter. In addition, with the PP test, the null hypothesis suggests that the variable under examination has a unit root with a drift that rules out any structural break. The alternative ZA test's null hypothesis argues that the series is a trend stationary process, with a one-time break in the trend variable occurring at an unknown period. The latter test is broader, allowing for changes in the series' level or growth rate. The ZA test performs a regression for each conceivable break date successively. The ZA test proposes that by endogenously changing the time of structural breaks, the conclusions of the unit root hypothesis proposed by traditional tests such as the ADF test can be reversed.

4.3.6. Cointegration test: the autoregressive distributed lag (ARDL)

To ascertain whether trade liberalisation and poverty reduction have connections over the long term, this investigation looks for cointegration among the variables. This study uses the ARDL bounds test approach to cointegration, which Pesaran, Shin and Smith (1999) and then Pesaran, Shin and Smith (2001) first presented. A cointegration test is a critical phase in determining whether a model demonstrates a relevant long-run association.

4.3.7. ARDL bounds test for cointegration

The ARDL bounds testing approach is employed because it accommodates regressors integrated of different orders, $I(0)$ and $I(1)$, and provides reliable estimates in small samples, while allowing the identification of both long-run relationships and short-run adjustment dynamics.

The general ARDL models (POV1, POV2 and POV3) for the present study, based on Equation 4.1 are indicated below:

Model 1: Upper-Bound Poverty line (POV1)

$$\begin{aligned}
 POV1_t = & C_0 + \sum_{i=1}^n \beta_{1i} \Delta POV1_{t-i} + \sum_{i=0}^n \beta_{2i} \Delta TRADE_{t-i} + \sum_{i=0}^n \beta_{3i} \Delta FDI_{t-i} + \sum_{i=0}^n \beta_{4i} \Delta INFLRATE_{t-i} \\
 & + \sum_{i=0}^n \beta_{5i} \Delta UNEMPRATE_{t-i} + \sum_{i=0}^n \beta_{6i} \Delta GDPPCG_{t-i} + \sum_{i=0}^n \beta_{7i} \Delta DUM08_09_{t-i} + \alpha_1 POV1_{t-1} \\
 & + \alpha_2 TRADE_{t-1} + \alpha_3 FDI_{t-1} + \alpha_4 INFLRATE_{t-1} + \alpha_5 UNEMPRATE_{t-1} + \alpha_6 GDPPCG_{t-1} \\
 & + \alpha_7 DUM08_09_{t-1} + \mu_t \dots \dots \dots (4.4)
 \end{aligned}$$

Model 2: Lower-Bound Poverty line (*POV2*)

$$\begin{aligned}
 POV2_t = & C_0 + \sum_{i=1}^n \beta_{1i} \Delta POV2_{t-i} + \sum_{i=0}^n \beta_{2i} \Delta TRADE_{t-i} + \sum_{i=0}^n \beta_{3i} \Delta FDI_{t-i} + \sum_{i=0}^n \beta_{4i} \Delta INFLRATE_{t-i} \\
 & + \sum_{i=0}^n \beta_{5i} \Delta UNEMPLRATE_{t-i} + \sum_{i=0}^n \beta_{6i} \Delta GDPPCG_{t-i} + \sum_{i=0}^n \beta_{7i} \Delta DUM08_09_{t-i} + \alpha_1 POV2_{t-1} \\
 & + \alpha_2 TRADE_{t-1} + \alpha_3 FDI_{t-1} + \alpha_4 INFLRATE_{t-1} + \alpha_5 UNEMPLRATE_{t-1} + \alpha_6 GDPPCG_{t-1} \\
 & + \alpha_7 DUM08_09_{t-1} + \mu_t \dots \dots \dots (4.5)
 \end{aligned}$$

Model 3: Food-Poverty line (*POV3*)

$$\begin{aligned}
 POV3_t = & C_0 + \sum_{i=1}^n \beta_{1i} \Delta POV3_{t-i} + \sum_{i=0}^n \beta_{2i} \Delta TRADE_{t-i} + \sum_{i=0}^n \beta_{3i} \Delta FDI_{t-i} + \sum_{i=0}^n \beta_{4i} \Delta INFLRATE_{t-i} \\
 & + \sum_{i=0}^n \beta_{5i} \Delta UNEMPLRATE_{t-i} + \sum_{i=0}^n \beta_{6i} \Delta GDPPCG_{t-i} + \sum_{i=0}^n \beta_{7i} \Delta DUM08_09_{t-i} + \alpha_1 POV3_{t-1} \\
 & + \alpha_2 TRADE_{t-1} + \alpha_3 FDI_{t-1} + \alpha_4 INFLRATE_{t-1} + \alpha_5 UNEMPLRATE_{t-1} + \alpha_6 GDPPCG_{t-1} \\
 & + \alpha_7 DUM08_09_{t-1} + \mu_t \dots \dots \dots (4.6)
 \end{aligned}$$

Where C_0 represents the constant term, β is the short-run coefficient, α denotes the long-run coefficient, n denotes the number of lags and μ is the error term. In addition, t is the period and Δ represents the difference operator. In this study, the optimal number of lags is determined using the Akaike Information Criterion (AIC) and the Schwarz Information Criterion (SIC). During the initial step of ARDL estimation, the study investigates the presence of a linear relationship by testing for a cointegration relationship among the variables. The following is the null hypothesis of no long-run relationship between the variables:

$$H_0: \alpha_1 = \alpha_2 = \alpha_3 = \alpha_4 = \alpha_5 = \alpha_6 = 0$$

The above null hypothesis is tested against the below hypothesis:

$$H_1: \alpha_1 \neq \alpha_2 \neq \alpha_3 \neq \alpha_4 \neq \alpha_5 \neq \alpha_6 \neq 0$$

which implies the existence of a long-run relationship between the variables.

In the second stage, the F-statistics obtained from the cointegration tests are evaluated. There are two essential values for the F-statistic that Pesaran and Pesaran (2009) and Pesaran, Shin and Smith (2001) proposed. First, the study is unable to reject the null hypothesis when the F-statistic is below the lower bound. Second, if the F-statistic exceeds the upper bound,

the null hypothesis is rejected. However, if the computed F-statistic is between the lower and higher bounds, the test findings are not conclusive, making it impossible for the study to make any inferences about the cointegration status of the variables under investigation.

If cointegration among the variables is confirmed, the next step involves the estimation of an error correction model (ECM). The ECM represents the short-run dynamic parameters that assess the speed of correction to long-run equilibrium following a short-term disturbance (Gujarati, 2003). The error correction models in this study are specified as follows:

Model 1: Upper-Bound Poverty line (POV1)

$$POV1_t = C_0 + \sum_{i=1}^n \beta_{1i} \Delta POV1_{t-i} + \sum_{i=0}^n \beta_{2i} \Delta TRADE_{t-i} + \sum_{i=0}^n \beta_{3i} \Delta FDI_{t-i} + \sum_{i=0}^n \beta_{4i} \Delta INFLRATE_{t-i} \\ + \sum_{i=0}^n \beta_{5i} \Delta UNEMPLRATE_{t-i} + \sum_{i=0}^n \beta_{6i} \Delta GDPPCG_{t-i} + \sum_{i=0}^n \beta_{7i} \Delta DUM08_09_{t-i} + \varphi_1 ECT_{t-1} \\ + \mu_t \dots \dots \dots (4.7)$$

Model 2: Lower-Bound Poverty line (POV2)

$$POV2_t = C_0 + \sum_{i=1}^n \beta_{1i} \Delta POV2_{t-i} + \sum_{i=0}^n \beta_{2i} \Delta TRADE_{t-i} + \sum_{i=0}^n \beta_{3i} \Delta FDI_{t-i} + \sum_{i=0}^n \beta_{4i} \Delta INFLRATE_{t-i} \\ + \sum_{i=0}^n \beta_{5i} \Delta UNEMPLRATE_{t-i} + \sum_{i=0}^n \beta_{6i} \Delta GDPPCG_{t-i} + \sum_{i=0}^n \beta_{7i} \Delta DUM08_09_{t-i} + \varphi_1 ECT_{t-1} \\ + \mu_t \dots \dots \dots (4.8)$$

Model 3: Food-Poverty line (POV3)

$$POV3_t = C_0 + \sum_{i=1}^n \beta_{1i} \Delta POV3_{t-i} + \sum_{i=0}^n \beta_{2i} \Delta TRADE_{t-i} + \sum_{i=0}^n \beta_{3i} \Delta FDI_{t-i} + \sum_{i=0}^n \beta_{4i} \Delta INFLRATE_{t-i} \\ + \sum_{i=0}^n \beta_{5i} \Delta UNEMPLRATE_{t-i} + \sum_{i=0}^n \beta_{6i} \Delta GDPPCG_{t-i} + \sum_{i=0}^n \beta_{7i} \Delta DUM08_09_{t-i} + \varphi_1 ECT_{t-1} \\ + \mu_t \dots \dots \dots (4.9)$$

Where c_0 , Δ , δ and φ are the constant coefficient, the difference operator, the short-run coefficient, and the long-run coefficient of the error correction model, respectively. $ECT_{t-1} + \mu_t$ is the error correction term lagged by one period, and μ_t denotes a vector of white noise error terms. The coefficient of the error correction term (ECT) indicates how quickly a variable returns to equilibrium after a shock or disturbance in the previous period. To illustrate the

percentage of the ECM's deviation from a shock in the previous period to equilibrium in the current period, the ECM is lag-timed by one period (Engle and Granger, 1987; Hassler and Wolters, 2006).

4.3.8. Diagnostic tests

Following the estimation of the ARDL, some diagnostic tests should be performed. These use tests for residual normality, heteroscedasticity, serial correlation, and misspecification (RESET) to validate the statistical validity of the data.

4.3.8.1 Normality test

There are several methods for determining whether data are normally distributed. They are divided into statistical and graphical groups. Histograms of residuals, normal probability plots, cumulative frequency plots, Jarque-Bera tests, Shapiro-Wilks tests, Kolmogorov-Smirnov tests, and Anderson-Darling tests are frequently used in the performance of normality tests. In this study, the Jarque-Bera test for normality is employed.

The Jarque-Bera test is frequently utilised and is effective for several sample tests. It is based on OLS residuals (Jarque and Bera, 1987). The OLS residuals are measured after the skewness and kurtosis have been computed.

The following are the null and alternative hypotheses for the Jarque-Bera test:

H_0 : The variable is normally distributed.

H_1 : The variable is not normally distributed.

The test statistic is:

$$JB = \frac{n}{6} \left[S^2 + \frac{(K - 3)^2}{4} \right] \dots \dots \dots (4.10)$$

where N is the total number of observations, k is the number of estimated parameters, S is the degree of variable skewness, and K is the degree of variable kurtosis. If the p-value of the statistics is sufficiently low, lower, or equivalent to the level of significance, it will be rejected under the null hypothesis when the residuals exhibit a normal distribution. The normality assumption will not be rejected, though, if the p-value turns out to be somewhat higher. In other words, when the statistic's value is close to zero, the normality assumption is not rejected. The two-degree-of-freedom chi-square distribution is followed by the Jarque-Bera test statistic (Jarque and Bera, 1987).

4.3.8.2 Heteroscedasticity test

Heteroscedasticity is the result of a collection of random variables having different variances. It implies that during regression analysis, non-consistent variance is present. Engle's Arch LM test, also called the Lagrange multiplier, is used to test for heteroscedasticity (Engle, 1982).

The following are the test's alternative and null hypotheses:

H_0 : There is no heteroscedasticity.

H_1 : There is heteroscedasticity.

The test statistic is:

$$LM = nR^2$$

n denotes the number of observations, and R^2 represents the augmented residual regression's coefficient of determination. The null hypothesis of homoscedasticity is rejected when the p-value is less than the chosen significance level.

4.3.8.3 Serial correlation test

Serial correlation occurs between components in a time-ordered series of error terms. As stated by Wooldridge (1999), the main causes for this are incorrect functional forms, autoregressions, data transformation and modification, and non-stationarity in the data. Autocorrelation can be caused by several different things. These include interpolating in statistical observations, misspecification of the actual error term, leaving out explanatory factors, and misspecification of the mathematical form of the model. The Geary test, Ljung-Box test, Durbin-Watson test, Breusch-Godfrey (BG) test, and graphical techniques can all be used to identify the serial correlation challenge. To verify that there is no first-order autocorrelation in the disturbance term, the BG test is employed in this investigation. According to Wooldridge (1999), the BG test is a Lagrange multiplier test that addresses the shortcomings of alternative techniques such as the Durbin-Watson test. Since the BG test yields definitive results and can be applied with a lagged dependent variable, it is selected for this example. The BG test is also capable of accounting for higher-order autocorrelation.

4.3.9. Measurement error and data limitations

The study recognises potential measurement limitations in key macroeconomic variables. For example, foreign direct investment data may be affected by large once-off transactions, valuation effects linked to exchange rate movements, and reporting practices, which can introduce volatility into annual series (Borensztein, De Gregorio and Lee, 1998). Similarly, unemployment rates are survey-based and may be subject to sampling variability and definitional revisions over time, particularly in developing-country contexts (Fields, 2011).

These factors may introduce measurement error, and the empirical results are therefore interpreted with caution, supported by robustness checks to mitigate potential bias.

4.4. Summary for the chapter

In this chapter, this study builds on the model of Akmal et al. (2007) to explore the relationship between trade liberalisation and poverty in South Africa. In the empirical model of this study, the dependent variable is measured by different proxies, namely, the upper-bound poverty line (POV1), lower-bound poverty line (POV2), and food poverty line (POV3). *TRADE* is the primary variable of interest (to measure the effect of trade liberalisation on poverty). The other variables, namely, *FDI*, *INFLRATE*, *UNEMPRATE*, *GDPPCG*, are included as control variables. These control variables are included to account for other channels that may affect poverty. In including these control variables, the study ensures that the effect of trade is not biased or overstated. A dummy variable for the 2008–2009 (*DUM_08_09*) period is included to account for the global financial crisis, which represented a significant structural shock to the South African economy. This crisis led to sharp declines in GDP, increased unemployment, and reduced trade and investment flows, all of which directly impacted poverty levels. By incorporating this dummy variable, the model effectively isolates the effects of trade liberalisation on poverty from the extraordinary and temporary shocks introduced by the crisis. This approach aligns with established econometric practices, where dummy variables are employed to capture structural breaks or sudden shifts in economic conditions (for example, Cerra and Saxena, 2008; Teulings and Zubanov, 2014). The study postulates an inverse relationship between trade liberalisation and poverty that says: when trade is more open, accompanied by increased *FDI*, and *GDPPCG*, and while *INFLRATE* and *UNEMPRATE* remain low, then poverty can be said to have been alleviated.

This study examines the relationship between trade liberalisation and poverty alleviation in South Africa, using various econometric techniques to assess stationarity, cointegration, and short-run dynamics. The first step involves testing the properties of the variables concerning possible stationarity using three tests for unit roots: ADF, PP, and ZA. The ADF test is used to examine whether a time series is stationary by testing the null hypothesis that the series contains a unit root, implying non-stationarity (Dickey & Fuller, 1979). The PP procedure attempts to deal with possible serial correlation in the error terms with a non-parametric procedure. The ZA test is intended to find structural breaks in the data and computes a regression for each conceivable break date successively. The ARDL bounds test for cointegration is an explicit check for the existence of a single co-integrating vector. It is most suited for this study, as it works for variables integrated at different orders $I(0)$ and $I(1)$ and

gives applicable results with small samples. The cointegration test checks for the long-term relationship between the variables and states the null hypothesis that none exists. If cointegration is proven, the study then estimates an ECM to analyse how quickly a variable returns to equilibrium after a shock or disturbance in the previous period. Several diagnostic tests are carried out to ensure the validity of the results. The Jarque-Bera test checks whether the data follow a normal distribution and is employed to test the normality of the residuals. Residual heteroscedasticity is tested using Engle's Arch LM test. Autocorrelation in the residuals is tested using the BG test, thus ensuring that the model is free from serial correlation.

CHAPTER 5

ESTIMATIONS AND ANALYSIS OF EMPIRICAL RESULTS

5.1. Introduction

The overall aim of this study is to empirically investigate the relationship between trade liberalisation and poverty reduction in SA during the period 1993 to 2024. The first section of this chapter provides an analysis of descriptive statistics for the selected variables, followed by a discussion of the variables' stationarity results. In the second section, the researcher uses a unit root test to establish the order of integration for each variable. The final part covers the empirical results of the ARDL bounds testing approach and the error correction model, which also includes tests for model stability.

5.2. Analysis of descriptive statistics

This section discusses and presents the descriptive statistics of the variables. These statistics are related to characteristics of the dependent variable proxies, namely the upper bound poverty lines (**POV1**), lower bound poverty line (**POV2**) and food poverty line (**POV3**). These are proxies for poverty and the characteristics of the independent variables, which are trade liberalisation (**TRADE**), foreign direct investment (**FDI**), inflation rate (**INFLRATE**), unemployment rate (**UNEMP RATE**) and GDP per capita growth (**GDPPCG**). All variables are based on 32 annual observations, corresponding to the period 1993–2024, ensuring consistency across the dataset.

Table 5.1: Descriptive statistics

	POV1	POV2	POV3	TRADE	FDI	INFLRATE	UNEMP RATE	GDPPCG	DUM_08_09
Mean	60.653	45.1616	28.234	51.559	1.5013	5.827	25.141	0.976	0.063
Median	58.382	42.813	27.891	53.500	0.963	5.720	23.442	1.334	0.000
Maximum	68.327	52.842	34.247	65.975	9.681	9.909	34.007	4.530	1.000
Minimum	55.338	39.7689	22.034	35.698	0.008	-0.692	22.260	-7.679	0.000
Std. Dev.	5.069	4.873	3.793	8.038	1.838	2.297	3.518	2.381	0.246
Skewness	0.373	0.464	0.266	-0.094	3.127	-0.340	1.351	-1.378	3.615
Kurtosis	1.361	1.499	1.884	2.334	13.787	3.648	3.597	6.609	14.067
Jarque-Bera	4.324	4.1501	2.039	0.639	207.294	1.176	10.204	27.488	232.983
Probability	0.115	0.1255	0.361	0.727	0.000	0.555	0.006	0.000	0.000
Sum	1940.888	1445.171	903.487	1649.898	48.042	186.473	804.499	31.230	2.000
Sum Sq. Dev.	796.476	736.196	446.044	2003.048	104.779	163.534	383.877	175.755	1.875

Source: Computed by author

Table 5.1 presents the descriptive statistics for all variables used in the ARDL models for the period 1993–2024. The poverty proxies—**POV1** (upper-bound), **POV2** (lower-bound), and **POV3** (food poverty line)—record mean values of 60.65%, 45.16%, and 28.23%, respectively, reflecting differing depths of poverty over the sample period. The ordering of the means is consistent with increasing severity of deprivation across the poverty measures. In terms of dispersion, **POV1** and **POV2** exhibit moderate variability (standard deviations of 5.07 and 4.87, respectively), while **POV3** displays relatively lower volatility (3.79). This suggests that extreme food poverty is more persistent and less responsive to short-term fluctuations than broader poverty measures. The poverty proxies are mildly right-skewed and platykurtic, and the Jarque–Bera test statistics indicate that all three poverty measures are approximately normally distributed at conventional significance levels.

Turning to the explanatory variables, trade liberalisation (**TRADE**) averages 51.56%, indicating a moderately open economy over the period under review. **TRADE** exhibits substantial variability (standard deviation of 8.04), reflecting South Africa’s exposure to global economic cycles, policy reforms, and external shocks. The trade variable is approximately normally distributed, with low skewness and kurtosis values, a finding confirmed by the Jarque–Bera test. Foreign direct investment (**FDI**), by contrast, records a relatively low mean (1.50% of GDP) but is highly volatile (standard deviation of 1.84), with pronounced right skewness (3.13) and excess kurtosis (13.79). The strong rejection of normality for **FDI** highlights the episodic and uneven nature of capital inflows, characterised by occasional surges rather than sustained trends.

The remaining macroeconomic variables broadly reflect South Africa’s structural economic characteristics. The inflation rate (**INFLRATE**) averages 5.83%, with moderate dispersion (2.30), capturing periods of both price stability and elevated inflation. Inflation is approximately normally distributed, as indicated by the Jarque–Bera test. The unemployment rate (**UNEMPLRATE**) records a persistently high mean of 25.14%, combined with relatively moderate variability (3.52), underscoring the structural nature of labour-market challenges over the period. However, its positive skewness and elevated kurtosis point to asymmetric outcomes during periods of economic distress, with normality rejected. GDP per capita growth (**GDPPCG**) records a low average growth rate (0.98%) but displays considerable volatility (2.38), reflecting pronounced fluctuations between expansionary and contractionary phases, including major downturns. The distribution of **GDPPCG** is negatively skewed and strongly leptokurtic, with the Jarque–Bera test clearly rejecting normality, consistent with the prevalence of large negative growth shocks.

Finally, the global financial crisis dummy (**DUM0809**) has a low mean (0.06), reflecting its activation in only two years of the sample. As expected for a binary indicator, the variable is highly skewed and leptokurtic, with normality strongly rejected. Overall, the descriptive statistics indicate that while poverty measures remain relatively stable and well-behaved, key macroeconomic variables—particularly **FDI**, unemployment, and **GDPPCG**—exhibit considerable volatility and non-normality. These contrasting distributional properties provide a strong motivation for employing a flexible ARDL framework capable of accommodating heterogeneous dynamics and disentangling short-run shocks from long-run poverty relationships.

Table 5.2: Correlation analysis

	POV1	POV2	POV3	TRADE	FDI	INFLRATE	UNEMPRATE	GDPPCG
POV1	1							
POV2	0.986	1						
POV3	0.743	0.812	1					
TRADE	-0.808	-0.798	-0.787	1				
FDI	-0.078	-0.081	-0.202	0.327	1			
INFLRATE	0.346	0.343	0.416	-0.154	0.112	1		
UNEMPRATE	-0.718	-0.626	-0.167	0.362	-0.137	-0.291	1	
GDPPCG	0.347	0.269	-0.185	-0.051	0.051	-0.038	-0.720	1

Source: Computed by author

Table 5.2 presents the correlation coefficients between the variables employed in the model. The results indicate that the poverty proxies (**POV1**, **POV2**, and **POV3**) are strongly and positively correlated with each other, suggesting that these measures capture closely related movements in poverty dynamics over the sample period. In particular, **POV1** and **POV2** exhibit an almost perfect correlation (0.98), reflecting their close conceptual relationship as upper- and lower-bound poverty measures. **POV3** is also positively correlated with **POV1** (0.68) and **POV2** (0.79), although the relatively lower correlations indicate that food poverty does not always move proportionately with broader income-based poverty measures. This differentiation is expected given the distinct vulnerability of households at or below the food poverty line.

With respect to the explanatory variables, trade liberalisation (**TRADE**) shows a strong negative correlation with all three poverty proxies, with coefficients of -0.81 for **POV1**, -0.79 for **POV2**, and -0.63 for **POV3**. This implies that higher levels of trade integration are generally associated with lower poverty outcomes, particularly for the broader poverty measures. The weaker correlation with food poverty suggests that the poverty-reducing effects of trade may not be evenly distributed across all income groups, potentially bypassing

the poorest households. Foreign direct investment (*FDI*) displays weak negative correlations with the poverty proxies (ranging from -0.13 to -0.18), indicating that the relationship between FDI inflows and poverty reduction is relatively limited at the unconditional level and may operate indirectly through other macroeconomic channels.

The correlation results further indicate that inflation (*INFLRATE*) is positively associated with all poverty measures, with coefficients of 0.34 for *POV1*, 0.36 for *POV2*, and 0.42 for *POV3*. The stronger correlation with food poverty is consistent with theoretical expectations that inflation, particularly food price inflation, erodes household purchasing power and disproportionately affects households at the lower end of the income distribution. The unemployment rate (*UNEMP RATE*) exhibits a mixed pattern: it is negatively correlated with *POV1* (-0.63) and *POV2* (-0.50), while showing a near-zero correlation with *POV3* (-0.01). Although the negative correlations may appear counterintuitive, they likely reflect structural labour-market dynamics and the role of social transfers that weaken the contemporaneous association between recorded unemployment and income-based poverty. Food poverty however remains more immediately linked to subsistence constraints.

Finally, GDP per capita growth (*GDPPCG*) shows relatively weak correlations with the poverty proxies, being positively correlated with *POV1* (0.32) and *POV2* (0.24), and weakly negatively correlated with *POV3* (-0.18). These modest coefficients suggest that short-run growth fluctuations do not translate directly into immediate changes in poverty levels, reinforcing the importance of examining dynamic and long-run relationships. Importantly, none of the explanatory variables exhibit excessively high pairwise correlations with each other, as all coefficients remain well below the conventional multicollinearity threshold of 0.80. This suggests that multicollinearity is unlikely to pose a serious concern in the subsequent ARDL estimations and supports the joint inclusion of these variables in the empirical model.

5.3. Results of the Unit Root Test

For this study, the order of integration of the variables is established using the Augmented Dickey–Fuller (ADF), Phillips–Perron (PP), and Zivot–Andrews (ZA) unit root tests. The ADF and PP tests are conventional unit root tests, with the PP test providing robustness to serial correlation and heteroskedasticity without requiring lag augmentation (Phillips & Perron, 1988). The ZA test allows for unit root testing in the presence of a single endogenous structural break, addressing the limitation of standard unit root tests that assume parameter stability over the sample period. Zivot and Andrews (1992) extend the Dickey–Fuller framework by allowing the breakpoint to be determined endogenously using a data-dependent procedure

rather than being specified *a priori*. As noted by Waheed, Alam and Ghauri (2006), this approach provides a more reliable assessment of stationarity in the presence of structural changes. The stationarity outcomes of the variables in levels are reported in Tables 5.3 and 5.4 under different deterministic specifications, namely, no intercept and trend, intercept, and intercept with trend for the ADF and PP tests. For the ZA test, results are reported under specifications allowing for a break in the intercept as well as in both the intercept and trend.

Table 5.3: Stationarity tests for all variables in levels

Variable	Augmented Dickey-Fuller (ADF)			Phillips-Perron (PP)			Zivot-Andrews (ZA)	
	Intercept	Intercept and trend	No intercept and trend Intercept	Intercept	Intercept and trend	No intercept and trend Intercept	Intercept	Intercept and trend
POV1	-1.387 (0.576)	-0.446 (0.981)	-2.301 (0.023) **	-1.363 (0.587)	-0.598 (0.972)	-2.144 (0.033) **	-6.589 (0.000) ***	-3.466 (0.713)
POV2	-1.589 (0.476)	-0.333 (0.986)	-0.705 (0.083)	-1.571 (0.485)	-0.274 (0.988)	-0.602 (0.102)	-5.997 (0.000) ***	-2.992 (0.914)
POV3	-1.55 (0.495)	-0.629 (0.970)	-0.660 (0.423)	-1.591 (0.475)	-0.630 (0.970)	-0.632 (0.435)	-2.534 (0.893)	-2.857 (0.945)
TRADE	-2.130 (0.235)	-3.378 (0.073) *	0.656 (0.853)	-1.913 (0.323)	-3.090 (0.126)	2.185 (0.992)	-3.483 (0.397)	-4.598 (0.103)
FDI	-5.265 (0.000) ***	-5.365 (0.000) ***	-3.438 (0.001) ***	-5.507 (0.000) ***	-7.013 (0.000) ***	-3.407 (0.001) **	-7.131 (0.000) ***	-5.576 (0.000) ***
INFLRATE	-4.022 (0.004) ***	-4.345 (0.009) ***	-1.510 (0.120)	-3.196 (0.030) **	-3.445 (0.064) *	-1.447 (0.135)	-4.477 (0.046) **	-5.203 (0.018) **
UNEMP RATE	0.498 (0.984)	-1.607 (0.767)	1.639 (0.973)	0.752 (0.991)	-1.435 (0.830)	1.759 (0.979)	-1.939 (0.985)	-3.413 (0.743)
GDPPCG	-4.038 (0.004) ***	-4.898 (0.002) ***	-3.603 (0.000) ***	-4.047 (0.004) ***	-4.886 (0.002) ***	-3.586 (0.000) ***	-5.689 (0.000) ***	-6.496 (0.000) ***

Source: Computed by author. Note: ***, **, and * represent 1%, 5%, and 10% level of significance, respectively. Values in parentheses () are P-values.

Based on the stationarity test results of the ADF, PP, and ZA tests reported in Table 5.3, and using the Augmented Dickey-Fuller (ADF) test, it can be generally concluded that none of the poverty proxies (*POV1* – *POV3*) are stationary in levels i.e., *I*(0). Similarly, with the explanatory variables, *TRADE* and *UNEMP RATE* are non-stationary in levels. However, *FDI* and *GDPPCG* is significant at the 1% level under both the intercept and the intercept with trend specifications, indicating stationarity in levels. The *INFLRATE* also shows significance at the

1% level under the intercept and intercept with trend cases, implying that inflation is stationary at levels. The Phillips-Perron (PP) test broadly corroborates these results, confirming the stationarity of *FDI* and *GDPPCG* at the 1% level while *INFLRATE* shows stationarity at 5%, although most other variables remain non-stationary. Importantly, the Zivot-Andrews (ZA) test, which accounts for a single endogenous structural break, shows stronger evidence of stationarity for some variables. *POV1* and *POV2*, in particular become stationary under the intercept specification, suggesting that ignoring structural breaks may mask their stationarity properties. Similarly, in general terms, *FDI*, *INFLRATE* and *GDPPCG* remain consistently stationary under intercept and intercept & trend specification, under the ZA test, reinforcing earlier findings. *TRADE* and *UNEMP RATE* remain non-stationary. Overall, these results imply that *FDI*, *INFLRATE* and *GDPPCG* exhibit stationarity in levels across some tests, with evidence of structural breaks improving stationarity outcomes for poverty measures.

Table 5.4: Stationarity tests for all variables in the first difference

Variable	Augmented Dickey-Fuller (ADF)			Phillips-Perron (PP)			Zivot-Andrews (ZA)	
	Intercept	Intercept and trend	No intercept and trend	Intercept	Intercept and trend	No intercept and trend	Intercept	Intercept and trend
POV1	-5.109 (0.000) ***	-5.263 (0.001) ***	—	-5.146 (0.000) ***	-5.264 (0.001) ***	—	—	-6.634 (0.000) ***
POV2	-5.404 (0.000) ***	-0.5774 (0.000) ***	-5.165 (0.000) ***	-5.443 (0.000) ***	-5.767 (0.000) ***	-5.241 (0.000) ***	—	-7.508 (0.000) ***
POV3	-4.650 (0.008) ***	-5.095 (0.002) ***	-4.716 (0.000) ***	-4.6423 (0.000) ***	-5.082 (0.001) ***	-4.710 (0.000) ***	-5.222 (0.000) ***	-5.804 (0.000) ***
TRADE	-5.876 (0.000) ***	-5.788 (0.000) ***	-5.783 (0.000) ***	-10.237 (0.000) ***	-11.340 (0.000) ***	-5.90 (0.000) ***	-6.003 (0.000) ***	-6.313 (0.000) ***
FDI	—	—	—	—	—	—	—	—
INFLRATE	—	—	-5.624 (0.000) ***	—	—	-7.637 (0.000) ***	—	—
UNEMP RATE	-5.048 (0.000) ***	-3.733 (0.040) **	-4.733 (0.000) ***	-5.033 (0.000) ***	-10.258 (0.000) ***	-4.733 (0.000) ***	-9.433 (0.000) ***	-5.230 (0.016) **
GDPPCG	—	—	—	—	—	—	—	—

Source: Computed by author. Note: ***, **, and * represent 1%, 5%, and 10% level of significance, respectively. Values in parentheses () are P-values.

Based on the stationarity test results of the ADF, PP, and ZA tests reported in Table 5.4, it can be concluded that they are generally integrated of order zero, i.e., $I(0)$, and are therefore stationary in levels. The findings from the ADF, PP, and ZA tests further demonstrate that all

the poverty proxies (*POV1 – POV3*), *TRADE*, *INFLRATE*, *UNEMPRATE* and *GDPPCG* are non-stationary in level. However, all three tests indicate that *POV1*, *POV2*, *POV3*, *TRADE*, *INFLRATE*, *UNEMPRATE* and *GDPPCG* are stationary in the first difference. Consequently, it can be concluded, these and variables are integrated of order one, *I*(1), in all cases of the three types of unit root tests. The outcomes of the unit root tests also demonstrate that all the variables that were non-stationary in levels became stationary following their first differentiation. Consequently, the variables employed in the study are integrated of either order zero, , i.e. *I*(0), or order one, i.e. *I*(0).Therefore, the ARDL framework is statistically valid and appropriate for estimating both short-run and long-run dynamics and the ARDL bounds testing approach as outlined by Pesaran, Shin, and Smith (2001) in all three models (*POV1 – POV3*).

5.4. ARDL bounds test for cointegration results

After confirming the variables' order of integration, the ARDL bounds test for cointegration is conducted to determine if the variables have any long-run relationship. Subsequently, the ARDL bounds test for cointegration, developed by Pesaran, Shin, and Smith (2001), is used. The findings of the ARDL bounds test for cointegration related to the current study are shown in Table 5.5.

Table 5.5: Findings from the cointegration ARDL bounds test

Table 3.5: Findings from the cointegration ARDL bounds test							
Country: SA	Dependent variable		Function		F-statistics	Status of cointegration	order of integration
Model 1	POV1		F (POV1 TRADE, FDI, INFLRATE, UNEMPRATE, GDPPCG, DUM_08-09)		7.32***	Cointegrated	1
Model 2	POV2		F (POV2 TRADE, FDI, INFLRATE, UNEMPRATE, GDPPCG, DUM_08-09)		12.62***	Cointegrated	1
Model 3	POV3		F (POV3 TRADE, FDI, INFLRATE, UNEMPRATE, GDPPCG, DUM_08-09)		8.91***	Cointegrated	1
The asymptotic critical value k=6							
	1%		5%		10%		
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	
	3.41	4.68	2.62	3.79	2.26	3.35	

Source: Computed by author. Note: *** denotes a 1% level of significance. K represents the number of endogenous regressors.

The results as presented in Table 5.5, provide strong evidence for the existence of a long-run equilibrium relationship between trade liberalisation and poverty reduction in South Africa. For

all three models, where each poverty proxy (*POV1 – POV3*) is treated as the dependent variable, the computed F-statistics far exceed the upper critical bounds value at the 1% level of significance. Specifically, the F-statistics are 7.32, 12.62, and 8.91 for models 1 through 3, respectively, all of which are well above the upper bound critical values (4.68 at the 1% level). This outcome provides strong evidence against the null hypothesis of no co-integration. It confirms that poverty and its determinants, namely *TRADE*, *FDI*, *INFLRATE*, *UNEMPRATE* and, *GDPPCG*, and the 2008–2009 global financial crisis dummy(*DUM0809*), are cointegrated in the long run. The implication of these findings is that poverty dynamics in South Africa cannot be adequately explained by short-run fluctuations alone but must rather be understood within a long-run framework that accounts for macroeconomic and external sector variables. In other words, changes in trade liberalisation, FDI, inflation rate, unemployment rate, and economic growth exert long-term influences on poverty outcomes, underscoring the structural interdependence between these variables. These results are consistent with the theoretical expectation that trade and macroeconomic shocks transmit their effects on welfare over an extended horizon. This reinforces the policy relevance of long-run poverty alleviation strategies that are aligned with macroeconomic stability and external sector developments.

5.5. Long-run and short-run estimation results of the models

5.5.1. Model 1: Upper-bound poverty line (*POV1*)

In the empirical estimations, the Akaike Info Criterion (AIC) is utilised to ascertain the ideal lag length for the ARDL model 1. For the model provided by the AIC, the chosen lag lengths are (1,2,2,2,2,1,2) for the variables *POV1*, *TRADE*, *FDI*, *INFLRATE*, *GDPPCG*, *UNEMPRATE* and *DUM_08_09*, respectively.

Table 5.6: Results of Model 1 (*POV1*)'s long-run and short-run estimates

Panel A: The long-run coefficient results				
Dependent variable: <i>POV1</i>				
Regressor	Coefficient	Standard error	t-statistics	Probability
<i>TRADE</i> (-1)	-1.366110	0.773287	-1.766629	0.0906**
<i>FDI</i> (-1)	5.118057	3.349527	1.527994	0.1402
<i>INFLRATE</i> (-1)	1.369685	1.630201	0.840194	0.4094
<i>UNEMPRATE</i> (-1)	0.620447	1.020427	0.608027	0.5491
<i>GDPPCG</i> (-1)	-3.045350	3.707424	-1.020437	0.3135
<i>DUM_08-09</i> (-1)	-16.50392	16.01643	-1.030437	0.3135
C	107.1701	23.68829	4.524182	0.0002
Panel B: The short-run coefficient results				
Dependent variable: Δ <i>POV1</i>				
Regressor	Coefficient	Standard error	t-statistics	Probability
Δ (<i>TRADE</i>)	-0.228772	0.028789	-7.946418	0.000***
Δ (<i>TRADE</i> (-1))	-0.127338	0.024173	-5.267698	0.000***

Panel A: The long-run coefficient results				
Dependent variable: POV1				
Regressor	Coefficient	Standard error	t-statistics	Probability
Δ (FDI)	0.142154	0.051004	2.787125	0.012**
Δ (FDI (-1))	-0.197296	0.048146	-4.097858	0.000***
Δ (INFLRATE)	0.395117	0.049903	7.917638	0.000***
Δ (INFLRATE (-1))	0.205946	0.043254	4.761347	0.000***
Δ (UNEMPRATE)	-0.526093	0.122250	-4.303409	0.000***
Δ (UNEMPRATE(-1))	-0.223952	0.100750	-2.222839	0.039**
D(GDPPCG)	-0.163349	0.042492	-3.844215	0.001***
D(DUM0809)	0.775608	0.393623	1.970436	0.0644*
D(DUM0809(-1))	-1.117821	0.411970	-2.713354	0.014**
ECT (-1)	-0.088728	0.009067	-9.785688	0.000***
R-Squared	0.904794	Mean dependent var	-0.354718	
Adjusted R-squared	0.846613	S.D dependent var	0.961791	
S.E. of regression	0.376682	Akaike info criterion	1.174345	
Sum squared resid	2.554012	Schwarz criterion	1.734824	
Log-likelihood	-5.615177	Hannan-Quinn criteria	1.353647	
F-statistics	15.55129	Durbin-Watson stat	2.648972	
Prob (F-statistic)	0.000001			

Source: Computed by author. Note: *, ** and *** denote stationarity of variables at 10%, 5%, and 1% levels of significance respectively; Δ is the first difference operator.

The long-run results presented in Panel A of Table 5.6 for Model 1 reveal that trade liberalisation exerts a statistically significant poverty reducing effect on the upper bound poverty line, with the lagged **TRADE** coefficient being negative and significant. The coefficient of -1.37 implies that a 1% increase in trade liberalisation leads to a 1.37 percentage point reduction in upper bound poverty in the long run in South Africa. This sizeable elasticity suggests that sustained trade integration plays a critical role in improving welfare among households clustered near the upper poverty threshold. The finding is consistent with the theoretical expectation that trade liberalisation expands economic opportunities through improved market access, export growth, and efficiency gains, which ultimately translate into higher household incomes and lower poverty. Empirically, this finding aligns with Winters et al. (2004), Tsai and Huang (2007), and Gnangnon (2019), who document a robust poverty reducing effect of trade liberalisation in developing economies.

Regarding the short-run findings presented in Panel B of Table 5.6, the results reveal a much richer and statistically significant structure. Trade liberalisation remains strongly significant in the short run, with both the contemporaneous and lagged changes in **TRADE** showing negative coefficients (-0.23 and -0.13 respectively), significant at the 1% level. This implies that a 1% increase in trade liberalisation reduces poverty by 0.23 percentage point immediately and a further 0.13 percentage point in the following period, highlighting both

immediate and persistent poverty-reducing effects. This reinforces the pro-poor nature of trade liberalisation even in the short run. It is consistent with evidence from Edwards (1998) and Berg and Krueger (2003), who found that trade reforms can quickly translate into welfare gains through price and labour market adjustments.

The short-run estimation results for foreign direct investment reveal a clear dynamic adjustment pattern that reflects the structural characteristics of **FDI** inflows in South Africa. The contemporaneous coefficient of 0.14 is positive and statistically significant, indicating that a 1% increase in **FDI** inflows raise upper-bound poverty by 0.14 percentage point in the current period. This result runs counter to the conventional economic expectation that foreign investment alleviates poverty through job creation and growth. Nonetheless, it is consistent with South Africa's experience, where **FDI** is predominantly directed toward capital-intensive sectors such as mining, energy, and finance. These sectors exhibit weak employment multipliers and limited direct participation of low-skilled labour, implying that increases in **FDI** may initially benefit capital owners and skilled workers while worsening welfare outcomes for vulnerable households. Empirical evidence by Anetor, Esho and Verhoef (2020) similarly shows that **FDI** does not necessarily translate into poverty reduction and can, under certain structural conditions, exert adverse effects on poverty outcomes, particularly in the absence of strong domestic linkages and absorptive capacity. Fedderke and Romm (2006) further support this interpretation, demonstrating that South African **FDI** has historically failed to translate into broad-based employment creation due to its sectoral concentration.

However, the lagged coefficient of -0.20 is negative and statistically significant, implying that a 1% increase in **FDI** inflows in the previous period reduces upper-bound poverty by 0.20 percentage point in the current period. This result suggests that the poverty-reducing effects of **FDI** materialise only after a short delay, once adjustment processes such as production expansion, indirect employment creation, and spillover effects begin to take effect. This pattern of an initial poverty-increasing impact followed by a lagged poverty-reducing effect is broadly consistent with South African evidence reported by Magombeyi (2017). It shows that the relationship between **FDI** and poverty is sensitive to the time horizon and measurement approach and with broader Sub-Saharan African findings by Anetor, Esho and Verhoef (2020). These authors argue that **FDI** reduces poverty only when its benefits are effectively transmitted through domestic linkages and absorptive capacity. This reinforces the view that the poverty impact of **FDI** is highly conditional rather than automatic. Overall, these results indicate that in the South African context, **FDI** is not immediately poverty-alleviating and may initially exacerbate poverty before any delayed benefits emerge.

Inflation (*INFLRATE*) is positive and highly significant in both current (0.40) and lagged (0.21) terms, indicating that rising inflation significantly increases poverty in the short run. Specifically, a 1% increase in inflation raises poverty by 0.40 percentage points contemporaneously, while a 1% increase in inflation in the previous period leads to an additional 0.21 percentage points increase in poverty in the current period. This suggests that inflationary shocks have lingering welfare effects, consistent with price rigidities, delayed wage adjustment, and continued erosion of real household incomes. This finding reflects the erosion of real incomes and purchasing power, particularly among low-income households, and is consistent with the work of Easterly and Fischer (2001) who show that inflation disproportionately harms the poor.

Short-run results also reveal interestingly that unemployment (*UNEMPRATE*) exerts a consistently negative and statistically significant effect on upper-bound poverty in both the contemporaneous and lagged terms, revealing an adjustment process that departs from standard theoretical expectations. The contemporaneous coefficient *UNEMPRATE* of -0.53 implies that a 1% increase in unemployment reduces upper-bound poverty by 0.53 percentage point in the current period. This finding appears counter-intuitive from a neoclassical perspective, which would predict that higher unemployment reduces household income and increases poverty. However, in South Africa's case, high and persistent structural unemployment coexists with a broad system of income-smoothing and social protection mechanisms that weaken the immediate poverty–unemployment transmission. The lagged *UNEMPRATE* coefficient of -0.22 is also negative and statistically significant, indicating that a 1% increase in unemployment in the previous period reduces poverty by approximately 0.23 percentage points in the current period. The larger magnitude of the lagged effect suggests that the poverty response to unemployment operates with persistence, reflecting delayed household-level adjustments rather than instantaneous labour-market clearing. Empirical evidence for South Africa supports this interpretation. Using an ARDL-based causality framework, Odhiambo (2009) finds that unemployment does not uniformly exacerbate poverty in the short run, as households rely on social grants, remittances, informal employment and extended-family income pooling to smooth consumption. Similarly, Leibbrandt et al. (2012) and Bhorat, Cassim and Tseng (2016) show that South Africa's extensive system of cash transfers, together with informal coping mechanisms, plays a central role in stabilising household welfare during periods of labour-market distress, thereby dampening the immediate poverty-increasing effects of rising unemployment. Recent World Bank assessments further confirm that South Africa's extensive system of social assistance and cash transfers

significantly cushions poor households against unemployment shocks, thereby weakening the immediate poverty–unemployment transmission and giving rise to non-linear and sometimes counter-theoretical poverty outcomes (World Bank, 2021; 2024; 2025).

GDP per capita growth (**GDPPCG**) is negative and significant (-0.16), confirming that economic growth contributes to poverty reduction in the short run. This implies that 1% increase in **GDPPCG** reduces poverty by approximately 0.16 percentage points, supporting the growth-poverty nexus literature. This is in line with Ravallion (2001a) and Dollar and Kraay (2002), who find that economic growth is a fundamental driver of poverty reduction, particularly when growth is inclusive. The 2008–2009 financial crisis dummy (DUM0809) also shows significant short-run effects, with a positive contemporaneous coefficient (0.78) and a negative lagged effect (-1.12). This suggests that the crisis initially increased poverty, likely due to job losses and economic contraction, but was followed by a corrective adjustment in the subsequent period. This dynamic is consistent with global evidence on the short-term adverse and medium-term adjustment effects of financial crises on poverty (World Bank, 2010). The positive short-run coefficient therefore correctly captures the immediate adverse welfare effects of the crisis.

Further findings from the Model 1 (**POV1**) reveal that the coefficient of the error correction (ECT) is statistically significant and is negative, as expected. According to the computed coefficient, the error correction term (ECT) is negative (-0.089) and highly significant, confirming the existence of a moderate long-run equilibrium relationship between the variables. The magnitude implies that approximately 8.9% of the disequilibrium is corrected each period. Furthermore, the ARDL model's underlying regression fits perfectly well. With an adjusted R-squared of 90% and an R-squared of 85%, respectively, these values indicate that the data fit the model and that the explanatory variables primarily explain the variation in the dependent variable.

5.5.2. Model 2: Lower-bound poverty line (*POV2*)

The optimal lag length for the ARDL model 2 was determined empirically using the Akaike Info Criterion (AIC). For the variables *POV2*, *TRADE*, *FDI*, *INFLRATE*, *GDPPCG*, *UNEMPRATE*, and *DUM_08_09*, respectively, the selected lag lengths for the AIC model are (1,2,2,2,1,0,1).

Table 5.7: Results of Model 2 (*POV2*)'s long-run and short-run estimates

Panel A: The long-run coefficient results				
Dependent variable: POV2				
Regressor	Coefficient	Standard error	t-statistics	Probability
TRADE(-1)	-0.797986	0.156131	-5.111019	0.000***
FDI(-1)	2.524264	0.914394	2.760585	0.011**
INFLRATE(-1)	1.876584	0.612768	3.062470	0.005***
UNEMPRATE(-1)	0.596503	0.358941	1.661844	0.110
GDPPCG	-0.740337	0.493596	-1.499884	0.147
DUM0809(-1)	-15.88393	5.429858	-2.925293	0.007***
Panel B: The short-run coefficient results				
Dependent variable: ΔPOV2				
Regressor	Coefficient	Standard error	t-statistics	Probability
D(TRADE)	-0.234481	0.024239	-9.673691	0.0000***
D(TRADE(-1))	-0.187332	0.024688	-7.588036	0.0000***
D(FDI)	0.178998	0.052462	3.411973	0.0026***
D(FDI(-1))	-0.309576	0.040183	-7.704164	0.0000***
D(INFLRATE)	0.522879	0.051414	10.16988	0.0000***
D(INFLRATE(-1))	0.125299	0.042306	2.961698	0.007***
D(UNEMPRATE)	-0.542422	0.103468	-5.242401	0.000***
D(DUM0809)	1.090383	0.372201	2.929551	0.008***
ECT (-1)	-0.177971	0.014461	-12.30656	0.000***
R-squared	0.916714	Mean dependent var	-0.293539	
Adjusted R-squared	0.884986	S.D. dependent var	1.151948	
S.E. of regression	0.390668	Akaike info criterion	1.201406	
Sum squared resid	3.205046	Schwarz criterion	1.621765	
Log-likelihood	-9.021092	Hannan-Quinn criter.	1.335883	
F-statistics	28.89303	Durbin-Watson stat	2.402613	
Prob (F-statistic)	0.0000			

Source: Computed by author. Note: *, **, and *** denote stationarity of variables at 10%, 5%, and 1% levels of significance, respectively; Δ is the first difference operator.

Table 5.7's Panel A displays the long-term results for model 2. The results reveal several important relationships between lower-bound poverty and its determinants in South Africa. Starting with trade liberalisation, the coefficient of lagged **TRADE** is negative and statistically significant at the 1% level. The estimated coefficient of -0.80 implies that a 1% increase in trade liberalisation leads to an approximate 0.80 percentage points reduction in lower-bound poverty in the long run. This finding suggests that sustained trade integration plays a meaningful role in reducing extreme poverty, most likely through reductions in the prices of basic consumption goods, improved food availability, and expanded low-skill employment opportunities in tradable sectors. This result is consistent with empirical evidence for South Africa and the broader Sub-Saharan African context. Here, trade liberalisation has been found to reduce poverty when its gains are transmitted through income and consumption channels, with labour-market effects playing a more prominent role in the South African case (Anetor, Esho & Verhoef, 2020; Maluleke & Vacu-Ngqila, 2024). This finding is consistent with the broader empirical literature, including Dollar and Kraay (2004) and Sachs and Warner (1995), who argue that open economies tend to experience faster poverty reduction primarily through growth-enhancing and efficiency-improving mechanisms. Furthermore, Winters et al. (2004) emphasise that trade liberalisation can reduce poverty through multiple transmission channels, including lower consumer prices and employment effects, particularly in developing economies.

In contrast, the coefficient of the lagged **FDI** variable is positive and statistically significant, indicating that foreign direct investment increases lower-bound poverty in the long run. The coefficient of 2.52 suggests that a 1% increase in **FDI** inflows is associated with an approximately 2.5 percentage points increase in extreme poverty. Though counter-intuitive from a theoretical standpoint, this result reflects the structural nature of **FDI** in South Africa. Inflows are highly concentrated in capital-intensive sectors such as mining, energy and finance, which generate limited employment opportunities for low-income and low-skilled households. As a result, FDI may contribute to aggregate output growth while simultaneously worsening distributional outcomes and constraining poverty reduction. Similar mechanisms are documented in the empirical literature. For example, Aitken and Harrison (1999) and Agosin and Machado (2005) show that foreign direct investment does not always generate broad-based welfare gains. It may weaken domestic productive capacity when linkages to the local economy are limited, with adverse implications for employment, income distribution and poverty outcomes.

The long-run coefficient of the lagged *INFLRATE* exhibits a positive and highly significant relationship with poverty, with a coefficient of 1.88. This indicates that a 1% increase in inflation leads to approximately a 1.9 percentage points increase in poverty, reflecting the erosion of purchasing power and real incomes among poor households. This finding is consistent with Easterly and Fischer (2001), who demonstrate that inflation disproportionately affects the poor by reducing real consumption levels and increasing vulnerability. Finally, the long-run results reveal that the lagged crisis dummy (*DUM0809*) is negative and statistically significant (-15.8), indicating that the 2008/09 global financial crisis is associated with a reduction in lower-bound poverty in the long run. While the crisis initially worsened socio-economic conditions, the negative coefficient suggests that post-crisis policy responses—particularly the expansion of social grants, counter-cyclical fiscal policy, and public employment programmes—played an important role in moderating extreme poverty over time. Similar interpretations are advanced in Leibbrandt et al. (2012) and World Bank (2010), which highlight that policy interventions following crises can mitigate long-term poverty impacts.

The short-run results reported in Panel B of Table 5.12 provide further insights into the dynamic adjustment of lower-bound poverty. Beginning with trade liberalisation, both the contemporaneous and lagged coefficients *TRADE* are negative and statistically significant at the 1% level. The estimated coefficients of -0.23 and -0.19 imply that a 1% increase in trade liberalisation reduces lower-bound poverty by approximately 0.23 percentage points in the current period and by a further 0.19 percentage points in the subsequent period. These results indicate that the poverty-reducing effects of trade materialise quickly and persist over time, reflecting rapid transmission through consumption prices and labour-market channels. These findings are in line with Edwards (1998) and Berg and Krueger (2003), who argue that trade reforms can yield rapid welfare gains through price adjustments and labour market responses. Additionally, this finding aligns closely with the short-run trade–poverty evidence reported by Winters et al. (2004), Topalova (2010), and Maluleke and Vacu-Ngqila (2024) for South Africa.

The short-run coefficients for foreign direct investment reveal a clear adjustment pattern. The contemporaneous coefficient of *FDI* (0.18) is positive and statistically significant, indicating that a 1% increase in *FDI* inflows raise lower-bound poverty by approximately 0.18 percentage points in the current period. This short-run poverty-increasing effect mirrors the long-run result and reflects the immediate distributional consequences of capital-intensive foreign investment in South Africa. However, the lagged *FDI* coefficient (-0.31) is negative and statistically significant, implying that a 1% increase in *FDI* inflows in the previous period reduces extreme poverty by approximately 0.31 percentage points in the current period. This

suggests that the benefits of *FDI* emerge only with a delay, once indirect employment effects, domestic supply-chain linkages, and income spillovers begin to materialise. This interpretation is consistent with evidence that *FDI* generates lagged growth and welfare effects rather than immediate broad-based gains (Borensztein et al., 1998; Adams, 2009).

Inflation (*INFRLRATE*) continues to exert a strong and persistent poverty-increasing effect in the short run. The contemporaneous coefficient (0.52) indicates that a 1% increase in inflation raises lower-bound poverty by approximately 0.52 percentage points in the current period, while the lagged coefficient (0.13) implies an additional 0.13 percentage points increase in poverty in the subsequent period. These results confirm that inflationary shocks have both immediate and lingering effects on extreme poverty, reinforcing the regressive nature of price increases in South Africa, as Easterly and Fischer (2001) documented.

The short-run coefficient of the unemployment rate (*UNEMPRATE*) is negative and statistically significant, implying that a 1% increase in unemployment reduces lower-bound poverty by approximately 0.54 percentage points in the current period. While counter-intuitive from a theoretical perspective, this result reflects South Africa's extensive system of social grants, informal income-generating activities, and household income pooling, which buffer extremely poor households against labour-market shocks in the short run. Similar anomalies are noted by Kingdon and Knight (2007), who argue that conventional labour-market indicators may not fully capture welfare dynamics in developing economies with high structural unemployment.

The crisis dummy *DUM0809* is positive and statistically significant (1.09), indicating that during the crisis period itself, lower-bound poverty increased. This captures the immediate adverse effects of the global financial crisis on employment and household incomes before policy interventions took effect. This is consistent with the expected adverse effects of economic shocks on household welfare. This aligns with global evidence showing that financial crises tend to increase poverty in the short term due to income losses and employment disruptions (World Bank, 2010).

Finally, the error correction term (ECT) is negative (-0.178) and highly significant, confirming the existence of a stable long-run equilibrium relationship among the variables. The magnitude suggests that approximately 17.8% of deviations from the long-run equilibrium are corrected within one period. This confirms the existence of a stable adjustment process toward long-run poverty equilibrium in Model 2. The high value of the R-squared (0.92) implies that about 92% of the variation in the poverty proxy is explained by the model. Further, the adjusted R-squared

of 0.88 shows that the model retains substantial explanatory power after accounting for degrees of freedom. Taken together, the ECT and goodness-of-fit statistics indicate that the ARDL model for POV2 is well-specified and that the data fit the model adequately.

5.5.3. Model 3: Food-bound poverty line (*POV3*)

For empirical estimations, the optimal lag length for the ARDL model 3 is determined using the Akaike Info Criterion (AIC). The lag lengths selected for the variables *POV3*, *TRADE*, *FDI*, *INFLRATE*, *GDPPCG*, *UNEMPRATE*, and *DUM_08_09* in the AIC model are (2,0,2,1,1,1,2) respectively.

Table 5.8: Results of model 3 (*POV3*)'s long-run and short-run estimates

Panel A: The long-run coefficient results				
Dependent variable: POV3				
Regressor	Coefficient	Standard error	t-statistics	Probability
TRADE	-0.612426	0.091765	-6.673881	0.000***
FDI(-1)	0.695534	0.635670	1.094175	0.284
INFLRATE(-1)	0.983532	0.326471	3.012614	0.006***
UNEMPRATE(-1)	0.588802	0.213941	2.752175	0.011**
GDPPCG(-1)	-0.985861	0.304487	-3.237776	0.003***
DUM0809(-1)	-3.234977	2.127311	-1.520688	0.141
Panel B: The short-run coefficient results				
Dependent variable: Δ POV3				
Regressor	Coefficient	Standard error	t-statistics	Probability
D(POV3_FPL(-1))	0.446880	0.077414	5.772619	0.000***
D(FDI)	-0.061359	0.050708	-1.210049	0.2404
D(FDI(-1))	-0.346767	0.038750	-8.948921	0.000***
D(INFLRATE)	0.587865	0.053422	11.00410	0.000***
D(UNEMPRATE)	-0.324812	0.151634	-2.142070	0.045**
D(GDPPCG)	-0.236521	0.037747	-6.265979	0.000***
D(DUM0809)	1.709882	0.347365	4.922437	0.000***
D(DUM0809(-1))	0.810278	0.315686	2.566720	0.018**
C	14.04385	1.507890	9.313575	0.000***
D(POV3_FPL(-1))	0.446880	0.077414	5.772619	0.000***
ECT (-1)	-0.347513	0.036807	-9.441589	0.000***
R-squared	0.949858	Mean dependent var	-0.096254	
Adjusted R-squared	0.927294	S.D. dependent var	1.423509	
S.E. of regression	0.383834	Akaike info criterion	1.183990	
Sum squared resid	2.946576	Schwarz criterion	1.651056	
Log likelihood	-7.759853	Hannan-Quinn criter.	1.333409	
F-statistic	42.09658	Durbin-Watson stat	2.875839	
Prob (F-statistic)	0.0000			

Source: Computed by author. Note: *, ** and *** denote stationarity of variables at 10%, 5%, and 1% levels of significance respectively; Δ is the first difference operator.

The long-run estimates reported in Panel A of Table 5.8 reveal that trade liberalisation reduces food poverty, with a coefficient of -0.61 , indicating that a 1% increase in trade liberalisation lowers food poverty (*POV3*) by approximately 0.61 percentage points. This reflects the role of trade liberalisation in improving food availability and stabilising prices. GDP per capita growth also significantly reduces food poverty, confirming the growth–poverty nexus. Recent South Africa-focused food-security research corroborates this result. Results show that access to imported food products and trade-linked distribution networks plays a critical role in stabilising food prices and improving dietary access for poor households (Nengovhela et al., 2025; Habanabakize & Zerihun, 2024). Similar trade-driven food-security effects have been observed in developing economies where food imports complement domestic production rather than displace it.

By contrast, inflation and unemployment significantly increase food poverty, highlighting the sensitivity of food-insecure households to price increases and labour-market exclusion. These findings are consistent with evidence linking macroeconomic instability and labour-market conditions to poverty and food-price vulnerability (Agénor, 2002; Odhiambo, 2009; SARB, 2020). Inflation emerges as a strong long-run driver of food poverty. The coefficient of the lagged *INFLARATE* is positive and statistically significant at the 1% level, indicating that a 1% increase in inflation raises food poverty by approximately 0.98 percentage points in the long run. This result highlights the disproportionate exposure of food-poor households to price instability, as food expenditures constitute a substantial share of total household consumption for the poor. South African evidence confirms that food inflation consistently exceeds headline inflation and directly worsens food insecurity, particularly among low-income, female-headed, and rural households (FoodForward SA, 2026; Stats SA, 2025). These findings align with broader sub-Saharan African evidence showing that persistent inflation erodes food access and increases hunger, even during periods of moderate economic growth. The long-run coefficient of the lagged *UNEPRATE* is positive and statistically significant, implying that a 1% increase in unemployment raises food poverty by approximately 0.59 percentage points in the long run. This result is theoretically intuitive and reflects the structural link between labour-market exclusion and food insecurity in South Africa. Persistent unemployment restricts stable income generation and constrains households' ability to maintain adequate food consumption over time. The findings of the current study are consistent with recent non-linear and ARDL-based analyses for South Africa, which demonstrate that unemployment is a major driver of persistent poverty and food insecurity once short-run coping mechanisms weaken (Ngubane et al., 2023).

Finally, lagged **GDPPCG** is negative and statistically significant at the 1% level, with a coefficient of -0.99 . This indicates that a 1% increase in GDP per capita growth reduces food poverty by approximately 0.99 percentage points in the long run, underscoring the importance of sustained and inclusive growth for food security. Economic growth improves food access through income effects, employment creation, and enhanced fiscal capacity to support nutrition-related interventions. Recent South Africa-focused research on growth and food security corroborates this result, showing that periods of stronger per-capita income growth are associated with meaningful reductions in food insecurity and malnutrition (OECD, 2024; Nengovhela et al., 2025).

The short-run findings presented in Panel B of Table 5.8 show that lagged **POV3** is positive and statistically significant, indicating persistence in food poverty. The lagged short-run coefficient on **FDI** is negative and statistically significant at the 1% level, indicating that a 1% increase in **FDI** inflows in the previous period reduces food poverty by approximately 0.35 percentage points in the current period. Unlike **POV1** and **POV2**, the **POV3** channel appears to benefit from delayed **FDI** effects, most likely through indirect employment creation, improved logistics and storage infrastructure, and spillovers into food related value chains. Recent sector specific evidence for South Africa shows that investment driven improvements in agriculture, food processing, and distribution contribute to enhanced food availability and affordability with a time lag (Bezuidenhout, Grater & Kleynhans, 2018; Habanabakize & Zerihun, 2024).

Furthermore, Inflation has a strong contemporaneous effect on food poverty. The coefficient on **INFLRATE** is positive and statistically significant, implying that a 1% increase in **INFLRATE** raises food poverty by approximately 0.59 percentage points in the current period. This result reflects the immediate sensitivity of poor households to food price increases, particularly during periods of supply disruptions or global price shocks. This result is consistent with ARDL evidence for Nigeria showing that food inflation exerts a significant short-run poverty-increasing effect by eroding poor households' purchasing power (Apeh, Yunana & Ahemen, 2025). The short-run coefficient on **UNEMP RATE** is negative and statistically significant level, indicating that a 1% increase in unemployment reduces food poverty by approximately 0.32 percentage points in the current period. Although counterintuitive from a theoretical standpoint, this short-run result reflects the buffering role of South Africa's social protection system and emergency food assistance programmes, which partially stabilise food consumption among vulnerable households during labour-market downturns (Waidler & Devereux, 2019; Patel et al., 2023).

Short-run economic growth also contributes to food poverty reduction. The coefficient of *GDPPCG* is negative and statistically significant, indicating that a 1% increase in GDP per capita growth reduces food poverty by approximately 0.24 percentage points in the current period. This finding is consistent with empirical evidence showing that economic growth is poverty-reducing by increasing household incomes and purchasing power, although the magnitude of this effect varies across countries and over time (Bogmans, Pescatori & Prifti, 2024). The crisis dummy (*DUM0809*) (1.71) and its lagged term (0.81) capture the short-run impact of the global financial crisis on food poverty. Both coefficients are positive and statistically significant. This reflects an immediate deterioration in food security arising from labour-market contraction and food price inflation during the global financial crisis, a pattern widely documented across developing economies (Jacobs, 2010; Ivanic & Martin, 2014).

Finally, the error-correction term ECT (−1) is negative and statistically significant, with a coefficient of −0.35, indicating that approximately 35% of short-run deviations from the long-run food poverty equilibrium are corrected within one period. This relatively rapid speed of adjustment suggests that, while food poverty is persistent, it remains responsive to long-run structural drivers such as growth, trade, and inflation dynamics. The high R-squared value of 0.95 indicates that the model explains approximately 95% of the variation in the food-poverty proxy (*POV3*). Taken together, the goodness-of-fit measures and ECT results indicate that the ARDL model for *POV3* is well specified.

5.6. Post-estimation diagnostic tests

To further confirm the reliability of the ARDL results, diagnostic tests were conducted, and the results are presented in Table 5.10 below.

Table 5.9: Diagnostic test results of the estimated model

Models	Model 1		Model 2		Model 3	
	F-statistics	P-value	F-statistics	P-value	F-statistics	P-value
Serial correlation: Breusch-Godfrey serial correlation LM test	1.53	0.27	1.07	0.37	4.05	0.05
Autoregressive conditional heteroscedasticity: ARCH	1.47	0.24	0.23	0.63	0.06	0.80
Normality: Jarque-Bera test	1.54	0.46	1.22	0.54	1.14	0.57

Source: Computed by author

Table 5.10 presents the results of post-estimation diagnostic tests to evaluate the statistical adequacy and robustness of the three ARDL models used to assess the relationship between trade liberalisation and poverty in South Africa. They include the Breusch-Godfrey Serial Correlation LM test, the ARCH heteroscedasticity test, and the Jarque-Bera normality test. Overall, the post-estimation diagnostic tests indicate that the estimated ARDL-ECM specifications for **POV1**, **POV2** and **POV3**, based on annual data spanning 1993–2024 ($n=32$), are econometrically sound and suitable for inference. For Models 1 (**POV1**) and 2 (**POV2**), the Breusch–Godfrey LM test fails to reject the null hypothesis of no serial correlation, while the ARCH and Jarque–Bera tests confirm homoscedastic and normally distributed residuals. These outcomes suggest that the selected lag structures and dynamic specifications adequately capture the underlying data-generating process, a key requirement for valid inference in single-equation ARDL frameworks (Pesaran, Shin & Smith, 2001; Kripfganz & Schneider, 2023).

For Model 3 (**POV3**), the residuals satisfy both the ARCH and normality conditions, while the Breusch–Godfrey test indicates only marginal serial correlation at the 5% level. Given the long-run nature of poverty dynamics, the relatively small sample size inherent in annual macroeconomic data, and the heightened persistence associated with extreme food poverty this result does not undermine the validity of the model. Rather, over a period characterised by major structural and macroeconomic shocks, it reflects the greater sensitivity of food poverty to transitory disturbances and adjustment dynamics. Moreover, food poverty dynamics are characterised by a higher degree of persistence and sensitivity to transitory shocks. Such include price volatility, income disruptions and macroeconomic crises, which may generate short-run residual dependence even after appropriate dynamic controls are included (Laborde, Lakatos & Martin, 2019 and Haile, Seyoum & Azmeraw, 2023).

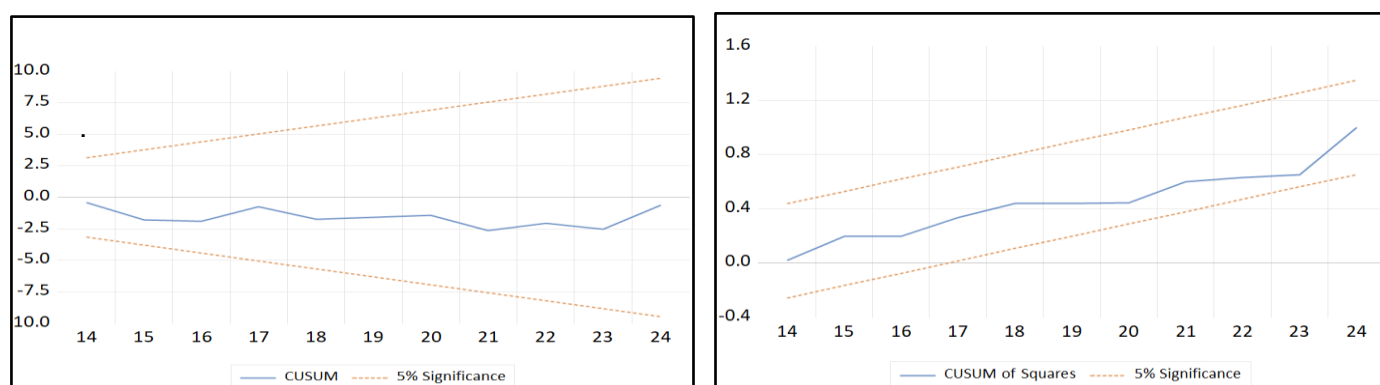


Figure 5:1 CUSUM and CUSUMSQ tests for model 1 (POV1)

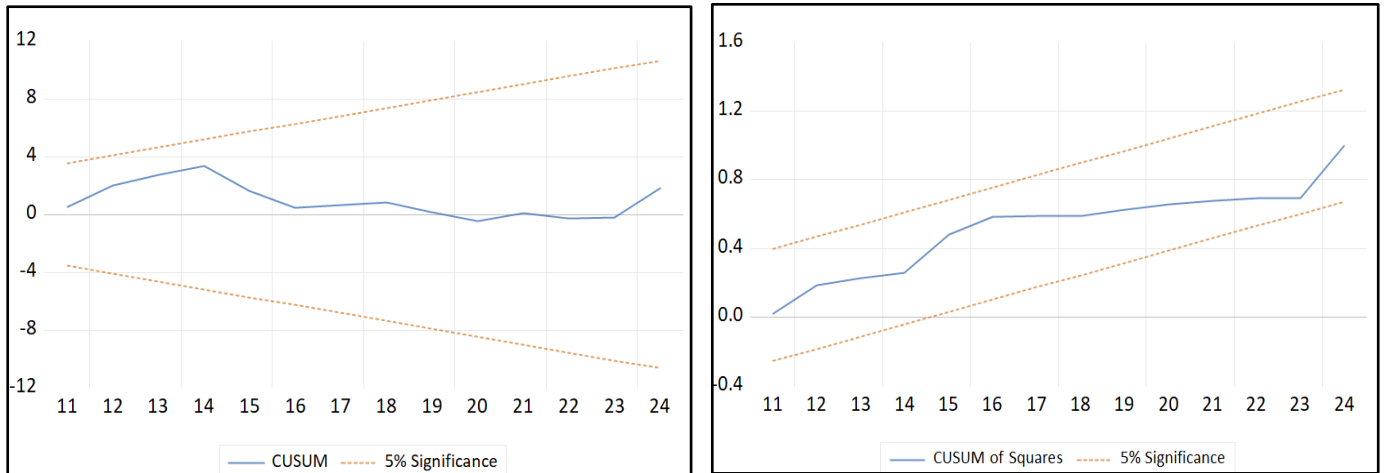


Figure 5:2: CUSUM and CUSUMSQ tests for model 2 (POV2)

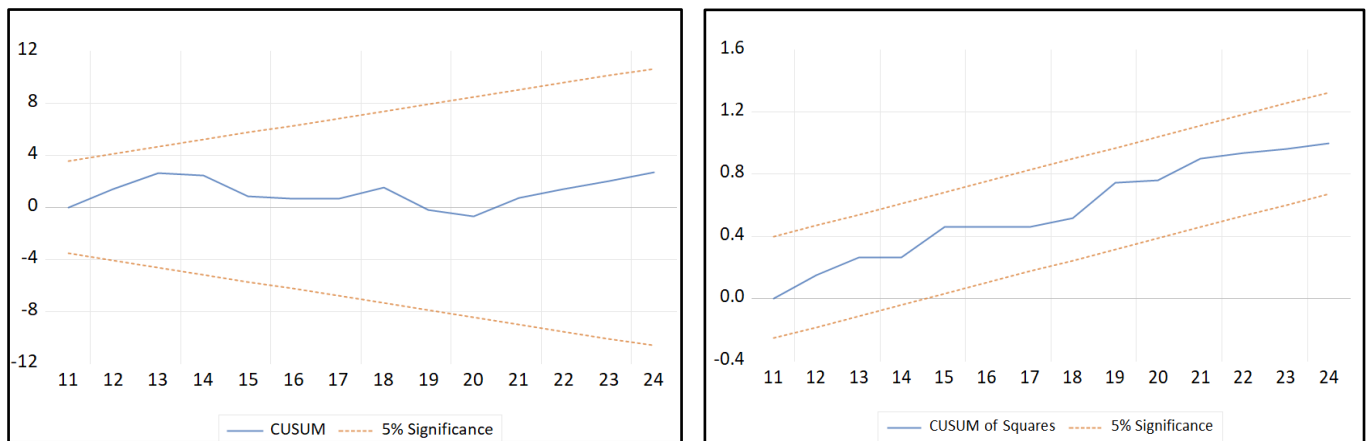


Figure 5:3 CUSUM and CUSUMSQ tests for model 3 (POV3)

The stability of the estimated ARDL models was assessed using the cumulative sum of recursive residuals (CUSUM) and the cumulative sum of squares of recursive residuals (CUSUMQ). These are critical post-estimation diagnostics that test whether model parameters remain stable across the sample period (Brown, Durbin, and Evans, 1975; Pesaran and Pesaran, 1997).

The CUSUMQ and CUSUM are plotted in the above figures. The stability of the estimated models is demonstrated by the CUSUM and CUSUMQ charts. This is because the CUSUM and CUSUMQ profiles lie between the two lines representing the 5% level of statistical significance. The parameters of model 1 are stable over the sample period. This implies that the long-run and short-run relationships between trade liberalisation and upper-bound poverty are consistent and robust, even in the presence of external shocks like the 2008/09 financial crisis. Model 2 is also stable, indicating that the estimated coefficients explaining lower-bound poverty (including trade, FDI, inflation, and unemployment) do not suffer from structural shifts during the study period. Model 3 displays satisfactory parameter stability. The short-run

dynamics between trade and extreme (food) poverty remain reliable, and the model can be considered structurally consistent.

Passing these diagnostics is essential because parameter stability ensures that the estimated relationships are not driven by structural breaks or model misspecification, thereby increasing the confidence that the results reflect the true dynamics of the underlying variables (Brooks, 2014). If the model fails such tests, the coefficients may be unstable, undermining the reliability of statistical inference and raising concerns about the robustness of economic conclusions. In the context of this study, models 1–3 generally pass the CUSUM and CUSUMQ tests, suggesting stable relationships.

5.7. Summary of the chapter

This chapter specifically provides the results of the various analytical techniques that were used to investigate the stationarity properties of the series, cointegration, and error correction mechanisms of the hypothesised co-integrating relationship. The ZA, PP, and ADF tests were used to assess the stationarity of the variables used in this investigation, while the autoregressive distributed lag bounds testing approach to cointegration was employed to test for cointegration and in the determination of the long-run and short-run coefficients.

The empirical investigation sought to examine the linkages between trade liberalisation and poverty alleviation in South Africa over the period 1993–2024, thus the EViews software Version 13 was used. The ARDL technique has been used in this study due to its advantageous features, which have been discussed in the methodology chapter. After the long- and short-term estimation results were obtained, the stability and diagnostic tests related to the estimated ARDL model were conducted and reported in chapter five.

The empirical results across the three ARDL models provide evidence that trade liberalisation exerts a poverty-reducing effect, particularly in the short run and for broader poverty measures. In Models 1 (POV1) and 2 (POV2), trade liberalisation displays a consistently negative and statistically significant impact on poverty in both the short run and long run, suggesting that increased integration into global markets is associated with reductions in income-based poverty. In Model 3 (POV3), which focuses on food poverty, trade liberalisation also exhibits a negative and significant long-run effect, although the magnitude and transmission appear more moderate.

These findings indicate that while trade liberalisation contributes to poverty alleviation, its effects are stronger for broader poverty measures than for extreme food poverty. GDP per

capita growth exhibits a negative and statistically significant impact on poverty, particularly in the short run across model 1 (POV1) and model 3 (POV3). This result underscores the importance of growth in improving household welfare and reducing poverty levels, although the long-run coefficients are less consistently significant across models. By contrast, the inflation rate emerges as a key driver of poverty increases. Inflation is positive and statistically significant in the short run across all three models and remains significant in the long run for Models 2 and 3, confirming theoretical expectations that rising prices erode purchasing power and disproportionately burden poor households, especially those near or below the food poverty line.

The effects of unemployment and foreign direct investment are more nuanced. In the short run, increases in unemployment are associated with reductions in poverty across all models, a result that appears counterintuitive however likely reflects the buffering role of social transfers, public support mechanisms, and informal coping strategies during labour-market downturns. In the long run, unemployment is associated with an increase poverty only in model 3 (POV3). Foreign direct investment displays mixed effects: while short-run changes in FDI are significant in several models, often with opposing signs across contemporaneous and lagged terms, its long-run impact on poverty is less robust. This pattern suggests that the poverty effects of FDI depend on sectoral allocation, capital intensity, and the extent of domestic spillovers rather than volume alone.

CHAPTER 6

CONCLUSION AND POLICY RECOMMENDATIONS

6.1. Introduction

This chapter concludes the study by synthesising the main empirical findings and translating them into focused policy recommendations for South Africa. The study investigated the relationship between trade liberalisation and poverty reduction over the period 1993–2024, using three income-based poverty measures: the upper bound poverty line (POV1), lower bound poverty line (POV2), and food poverty line (POV3). The ARDL bounds testing approach confirmed long-run relationships across all three models, allowing conclusions to be drawn regarding both short-run adjustment dynamics and long-run poverty outcomes.

6.2. Summary of the results

6.2.1. Existence of a long-run relationship

The ARDL bounds test results provide strong evidence of cointegration between poverty and its macroeconomic determinants in South Africa. The computed F statistics for Models 1 to 3 (where POV1, POV2, and POV3 were employed) exceed the upper-bound critical values, confirming that poverty dynamics are linked to trade liberalisation, inflation, unemployment, GDP per capita growth, FDI and the crisis period over the long run. These results implies that poverty cannot be explained by short-run fluctuations alone and must be understood within a long-run macroeconomic framework.

6.2.2. Robust findings across poverty measures

A key robust result is that trade liberalisation is poverty reducing in the long run across all three poverty measures. In Model 1 (POV1), the lagged trade coefficient is negative and statistically significant, indicating that increased trade liberalisation reduces upper bound poverty over time. In Model 2 (POV2), trade is strongly poverty reducing in the long run, and in Model 3 (POV3), trade also significantly reduces food poverty in the long run. Taken together, the evidence supports the view that sustained trade integration contributes to lower poverty, though the magnitude appears smaller for extreme poverty (food poverty) than for broader poverty measures.

Inflation emerges as the most consistently poverty increasing macroeconomic factor. In the short run, inflation is positive and statistically significant across Models 1–3, implying that inflationary shocks immediately worsen poverty. In the long run, inflation is strongly positive and significant in Models 2 and 3, confirming that sustained price increases deepen lower

bound and food poverty. This indicates that price stability is not only a macroeconomic objective, but a direct poverty reduction strategy—especially for households near or below the food poverty threshold.

6.2.3. Growth effects

GDP per capita growth shows poverty reducing effects, particularly for deeper poverty. In Model 3 (POV3), GDP per capita growth is negative and statistically significant in both long-run and short-run estimates, confirming that sustained growth supports reductions in food poverty. By contrast, the long-run growth coefficients are less consistently significant in Models 1 (POV1) and 2 (POV2), suggesting that aggregate growth may reduce extreme poverty more strongly than it reduces broader poverty. It may also be that distributional mechanisms influence how growth translates into welfare across poverty thresholds.

6.2.4. Labour market and investment effects

Unemployment exhibits mixed results across horizons. In the short run, unemployment changes are associated with reductions in poverty across the three models, a pattern that likely reflects buffering mechanisms (such as household income pooling or social support) that weaken the immediate poverty unemployment linkage. However, in the long run, unemployment significantly increases food poverty (POV3), indicating that persistent labour market exclusion ultimately worsens extreme deprivation over time.

FDI effects are also heterogeneous. In Model 2 (POV2), FDI is positive and significant in the long run, implying that FDI inflows are associated with higher extreme poverty over time, consistent with investment concentrated in capital intensive sectors with weak employment absorption. In the short run, FDI shows alternating contemporaneous and lagged effects in Models 1 (POV1) and 2 (POV2), indicating that the poverty impact of FDI depends on timing, sectoral allocation, and domestic linkages rather than volume alone. In Model 3 (POV3), FDI does not show a robust long-run effect, though lagged short-run effects suggest potential delayed welfare transmission.

6.2.5. Integrated Interpretation: Trade Liberalisation, Poverty and Structural Constraints

The results indicate that trade liberalisation contributes to poverty reduction in South Africa, but the magnitude and consistency of effects vary across poverty thresholds. Trade effects appear stronger for broader poverty measures (POV1 and POV2) than for food poverty

(POV3), implying that the poorest households may benefit less directly or more slowly from trade-related gains. In addition, the central role of inflation—particularly for lower bound and food poverty—highlights that poverty outcomes are strongly shaped by macroeconomic stability and the cost of living.

Importantly, the mixed effects of unemployment and FDI point to broader structural constraints. Labour market exclusion, sectoral concentration of investment, and limited absorption of low skilled workers can weaken the poverty reducing transmission of trade and growth. Therefore, while openness is part of the poverty reduction toolkit, it is not sufficient on its own. Policy must explicitly address structural inequality, uneven regional development and labour absorption if trade and growth are to translate into sustained poverty reduction across all poverty thresholds

6.3. Conclusion

Overall, the evidence from Models 1–3 indicates that trade liberalisation contributes to poverty reduction in South Africa, however, poverty outcomes depend critically on inflation dynamics, labour market absorption and the structure of investment. Accordingly, policy should prioritise inclusive trade expansion and price stability while addressing structural constraints, especially unemployment, inequality and regional disparities, to ensure that gains from openness and growth translate into sustained poverty reduction across all poverty thresholds.

6.4. Policy Recommendations

To address repetition and improve prioritisation, policy recommendations are structured into five sharp pillars. The pillars are ordered from the most directly supported by the empirical results (trade and inflation) to broader structural enablers needed to strengthen transmission to poor households.

6.3.1. Translate Trade Openness into Jobs and Incomes

Given the robust poverty-reducing effect of trade liberalisation across POV1–POV3, the policy focus should shift from “more trade” to how trade creates incomes for low- and semi-skilled households. Priorities include: (i) directing export support toward labour-absorbing tradable value chains (e.g., agro-processing, labour-intensive manufacturing niches, tradable services), (ii) reducing fixed trade costs for small firms through trade facilitation improvements (logistics efficiency, port/rail performance, and customs modernisation), and (iii) implementing adjustment support in industries and regions exposed to import competition (e.g., time-bound

support for retooling, worker retraining, and redeployment). This ensures trade gains reach households rather than remaining concentrated in capital-intensive sectors.

6.3.2. Cost-of-Living Protection as Poverty Policy

Because inflation is consistently poverty-increasing, especially for lower-bound and food poverty, price stability should be treated as a direct poverty-reduction instrument, not only a macro target. Policy should prioritise stabilising food, energy and transport costs, because these dominate poor households' budgets. Practical levers include: (i) reducing supply-side bottlenecks in food distribution and logistics, (ii) strengthening competition and market efficiency in staple food value chains, and (iii) deploying targeted relief during high-inflation episodes to protect purchasing power for households near the lower-bound poverty line and food-bound poverty line. This directly targets the strongest poverty-increasing channel identified in the results.

6.3.3. Labour-Absorbing Growth and Food-Poverty Reduction

The results for the current study show that persistent unemployment increases food poverty in the long run, indicating that extreme deprivation is structurally tied to labour-market exclusion. Therefore, poverty reduction must prioritise labour absorption, especially for youth and low-skilled workers, by: (i) scaling work-linked training aligned to tradable sectors (skills pipelines linked to hiring), (ii) expanding active labour market programmes that ease entry into formal jobs (placement support, apprenticeships, and structured work experience), and (iii) lowering barriers that keep small firms from hiring and expanding. Importantly, short-run buffering mechanisms should not be interpreted as unemployment being benign; policy should target sustained employment creation to prevent long-run entrenchment of food poverty.

6.3.4. Quality-Seeking Investment Strategy

Due to FDI effects that are mixed and can be poverty-increasing—particularly for lower-bound poverty—FDI policy should move from attract more inflows to attract the right kind of inflows. This means: (i) prioritising FDI that expands employment, supplier development and domestic value-chain linkages, (ii) using investment incentives and agreements to embed clear commitments (local supplier participation, skills transfer, and employment targets), and (iii) strengthening domestic absorptive capacity so that investment spillovers reach Small Medium Enterprises and workers. This approach aligns FDI strategy with poverty outcomes rather than assuming FDI is automatically pro-poor.

6.3.5. Structural and Spatial Equity to Strengthen Transmission

To avoid over-attributing poverty reduction to trade alone, policy must directly address structural constraints, especially inequality and regional disparities, that weaken transmission from trade and growth to poor households. Trade and industrial policy should therefore be aligned with regional development, including targeted infrastructure and enterprise support in high-poverty provinces and marginalised communities. Strengthening local economic development (township and rural enterprise ecosystems), improving access to quality services, and expanding transport/digital connectivity can increase poor households' ability to participate in labour markets and benefit from lower prices and new opportunities created by openness.

6.4 Limitations of the Study and Areas for Future Research

The study employs annual macroeconomic data for 1993–2024 and relies on three income-based poverty proxies, namely, upper bound poverty line (POV1), lower bound poverty line (POV2), and food poverty line (POV3). While the ARDL framework is well suited for capturing dynamic short-run and long-run relationships, the analysis remains at the aggregate level and cannot fully identify micro level distributional effects across households or sectors. In addition, some relationships, particularly those involving unemployment and FDI, appear sensitive to structural features of South Africa's economy, sectoral concentration and coping mechanisms that may not be fully captured by aggregate indicators.

Future research can extend the analysis by exploring sector level and regional heterogeneity in the trade–poverty relationship, including provincial or municipal poverty dynamics, where data allow. Further work could also investigate alternative model specifications or disaggregated measures of FDI by sector and labour market conditions, such as youth unemployment, economic sectors etc to clarify the channels through which trade and macroeconomic conditions translate into poverty outcomes.

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