ANALYSING THE DETERMINANTS OF IMPORT DEMAND: EVIDENCE FROM THREE SELECTED AFRICAN COUNTRIES

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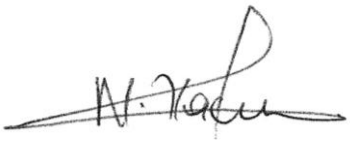
I declare that the above thesis is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.



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SUMMARY

This study examined the determinants of aggregate and disaggregate import demand in South Africa, Ghana and Tanzania over the period from 1985 to 2015. Although numerous studies have been carried out in this subject, the majority of the studies have only examined the determinants of aggregate import demand, and very few studies have examined the determinants of import demand at a disaggregate level.

Using the ARDL model, this study found that, on the whole, import demand in Model 1 is positively associated with investment spending, consumer spending and relative import price, but negatively associated with government spending in South Africa. In Ghana, import demand was found to be positively associated with consumer spending and exports of goods and services, but negatively associated with foreign exchange reserves. The finding revealed that in Tanzania, import demand is positively associated with investment spending, and exports of goods and services, but negatively associated with trade liberalisation. For Model2, import demand was found to be positively associated with trade liberalisation and foreign exchange reserves only in the long run and short run, respectively. In Ghana, the study found that import demand is positively associated with consumer spending, but negatively associated with relative import price. In Tanzania, import demand was found to be positively associated with foreign exchange reserves and consumer spending, but negatively associated with trade liberalisation.

For Model 3, the study found that import demand is positively associated with government spending, consumer spending and trade liberalisation, but negatively associated with relative import price in South Africa. In Ghana, import demand is positively associated with investment spending and government spending, but negatively associated trade liberalisation in Tanzania. For Model 4, import demand is found to be negatively associated with foreign exchange reserves in South Africa. For Ghana, import demand is negatively associated with relative import price in the short run, but positively associated with exports of goods and services in the long run. In Tanzania, the study found that import demand is positively associated with exports of goods and services. Based on these findings, policymakers should pursue policies that stimulate import substitution and promote exports.

KEY WORDS

South Africa; Ghana; United Republic of Tanzania; Africa; Determinants; Trade reforms; Import Demand; Aggregate; Consumer; Intermediate; Capital; Unit Root Test; ARDL Bounds-Testing Approach; Error Correction Model; Long-Run; Short-Run

DEDICATION

To my grandmother, Nowinile Vacu, the Vacu family and friends.

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Notwithstanding the contribution of the individuals, institutions and journals mentioned above, the responsibility for all the views and any shortcomings of this study, including errors and omissions, is entirely mine, and should not be attributed to any of the above-mentioned.

LIST OF ACRONYMS AND ABBREVIATIONS

ARDL	Autoregressive Distributed Lag
AU	African Union
CET	Common External Tariff
COMESA	Common Market for Eastern and Southern Africa
DTI	Department of Trade and Industry
EAC	East African Community
EFTA	European Free Trade Association
EPA	Economic Partnership Agreement
ERP	Economic Recovery Programme
EU	European Union
FTA	Free Trade Agreement
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
G-CAP	Ghana-Product Conformity Assessment Programme
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GEAR	Growth, Employment and Redistribution
IECD	Import and Export Control Department
IEPA	Interim Economic Partnership Agreement
LDCs	Least Developed Countries
MFN	Most-favoured-nation
NEPAD	New Partnership for Africa's Development
NTBs	Non-Tariff Barriers

OAU	Organisation of African Unity
SACU	Southern African Customs Union
SADC	Southern African Development Community
SAP	Structural Adjustment Programme
TBT	Technical Barriers to Trade
TDCA	Trade, Development and Co-operation Agreement
TFTA	Tripartite Free Trade Area
TIDCA	Trade, Investment and Development Cooperative Agreement
TIFA	Trade and Investment Framework Agreement
TRP	Tariff Rationalisation Process
TSSP	Trade Sector Support Programme
UAE	United Arab Emirates
UEMOA	West African Monetary and Economic Union
VAT	Value Added Tax
WTO	World Trade Organisation

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CHAPTER 1

INTRODUCTION TO THE STUDY

1.1 Background to the study

There is unanimity in both theoretical and empirical literature that foreign trade plays a pivotal role towards economic growth (Busse and Koniger, 2012; Sun and Heshmati, 2010). Foreign trade contributes to economic growth by enabling countries, especially poor countries and those with constrained production capacity, to access capital goods produced in richer countries (Mutreja and Ravikumar, 2014). In the long run, increased foreign trade and higher productivity lead to greater opportunities for people by improving their welfare (Samuelson and Nordhaus, 2002, cited in Mashra, 2012). According to Sun and Heshmati (2010), countries that trade internationally are considered more productive than countries which only produce for the domestic market. Foreign trade promotes efficient allocation of resources, allows a country to realise economies of scale, and facilitates the diffusion of knowledge. It fosters technological progress, and encourages competition and international markets that lead to optimisation of production processes and the development of new products (Busse and Koniger, 2012).

International trade comprises two components, namely, imports and exports. The impact of each of these components on economic growth differs. The majority of studies on the link between exports and imports, and economic growth, have generally found that exports are favourable for economic growth, while imports sometimes constrain economic growth (Bakari and Mabrouki, 2017).

In the literature there are two conflicting schools of thought regarding the impact of imports on economic growth. The first opposes free trade policies, arguing that high import demand has a negative impact on a country's balance of payments. Furthermore, the proponents of this view advocate for import substitution and fair trade, because they believe that free trade may be harmful to economic development, especially in developing countries (Chani *et al.*, 2011). On the other hand, the alternative school of thought is that free trade leads to economic efficiency. The proponents of this view argue that restrictions on imports, or protection policies, may lead to a decrease in tariff revenue and negatively impact a country's economic performance. According to Malhotra and Meenu (2009), cited in Mishra (2012), imports are the source of raw materials that are not available domestically, as well

as of technology and capital goods which are crucial for raising productive capacity in the economy. Increased importation of consumer products encourages domestic import-substituting firms to innovate and restructure themselves in order to compete with foreign products (Kim *et al*., 2007).

The effect of imports on growth also depends on the type of products being imported. Most of the world's capital goods are produced in a small number of research and development intensive countries, while the rest of the world generally imports capital equipment (De Long and Summers, 1991, cited in Arawomo, 2014). According to Englama *et al.* (2015), countries import for different reasons. The authors argued that a country could import for consumption, or to bridge production gaps for goods that can be produced locally but not in large quantities, and gaps in raw materials for industrial usage. In addition, they argued that countries could also import products that they cannot efficiently produce domestically, and for fiscal reasons to boost government revenue for developmental purposes.

Due to the lack of consensus on how imports impact economic growth, many emerging studies in the field of international economics are now focused on understanding the key drivers of import demand, both in developing and developed countries. These include work by Bathalomew (2010), Uzunoz and Akcay (2009), and Chen (2008), among others. The conventional trade theory emphasises the role of income and relative import price in determining a country's import demand. This theory is often associated with the maximisation of utility framework, where both the consumption of locally produced goods and imports are subject to budget constraints. In support of this, the imperfect substitution model, which was developed by Paul Krugman (1980), states that imports and domestically produced goods are not substitutes, and income is assumed to be the key driver of import demand. According to the neoclassical and the new Keynesian theories, relative import price is as a key determinant of import demand. This is based on the assumption that countries differ in their factors of production, therefore, a country imports goods for which it has less factor endowment (Arawomo *et al.*, 2015).

Empirical literature suggests that the impact of these and other factors differs from country to country, and depends on the types of goods imported (Anaman *et al.*, 2001; Lim and Kim, 2002; Dutta and Ahmed, 2004). Understanding the key determinants of import demand for individual countries gives an indication of why import demand behaviours vary across countries. In addition, examining the determinants of import demand can help policymakers

when designing trade-related and fiscal policies in their respective countries. Lastly, a thorough understanding of imports behaviour can also give a clear picture of a country's foreign trade regime (Afzal, 2007).

1.2 Statement of the problem and justification of the study

Many African countries have over the last decade embarked on trade reforms in an effort to integrate themselves into the global economy. The commitment to such reforms is driven by the belief that trade liberalisation leads to a transition from closed to relatively open economies (Zahonogo, 2017). South Africa, Ghana and the United Republic of Tanzania, from here on referred to as Tanzania, are no different. Trade is a key component of their economic activities, accounting for more than 50% of their gross domestic product (World Bank, 2015).

In the case of South Africa, the transition to democracy in the early 1990's was followed by the adoption of a number of strategic development policies. This included a review of trade policies with speedy tariff liberalisation based on the General Agreement on Tariffs and Trade (GATT) in 1994, which was implemented from 1995 onwards under the auspices of the World Trade Organization (WTO) (Rangasamy and Harmse, 2005). The country's accession to the WTO, negotiation of a free trade agreement with the European Union (EU), and discussions over a SADC free trade area, collectively highlighted the growing contribution of trade to the prospects and prosperity of the South African economy (Lewis, 2001).

Similarly, in the case of Ghana, the importance of trade has been strengthened by trade policy reforms. Since independence in 1957, the country has gone through two trade and repayment policy reforms, which are described as Ghana's trade cycles (Harvey and Sedegah, 2011). These cycles included trade liberalisation at different levels. For example, the first cycle lasted from 1950 to 1971, and comprised a liberal trade regime, the introduction of a controlled regime, breakdown of the controlled system, attempted liberalisation and import liberalisation. This was followed by the second cycle, which started in 1972 and continues to date.

In the case of Tanzania, since the late 1960's, the country has gone through a number of macroeconomic policy reforms, with a view to stimulating economic growth and restoring economic balances (Mkubwa *et al*., 2014). This included the abolition of import restrictions, simplification of tariffs, liberalisation of foreign exchange rates, and introduction of an

import-substitution strategy, which was meant to replace imports with domestically produced imports (Kanaan, 2000; Saruni, 2006).

Trade reforms such as trade liberalisation should lead to improved economic performance accompanied by a rise in domestic production, and, in turn, less reliance on imports (Edwards, 1991). However, this is not the case in South Africa, Ghana and Tanzania, as trade reforms in these countries have led to a rise in imports, and trade deficits. All three have, over the years, been highly dependent on imports and persistently recorded trade deficits and negative current account balances. Between 2008 and 2015, imports as a percentage of GDP in South Africa, Ghana, and Tanzania were 31%, 49% and 29%, respectively (World Bank, 2015). In addition, imports have grown faster than GDP and exports in these countries. While imports grew at an average rate of 3%, 11% and 9%, GDP rose by 1.6%, 8% and 6%, and exports by 1%, 9% and 4%, respectively (IMF, 2015). Estimates by the World Bank (2015) also show that, in some years, imports in these countries grew at rates that were higher than the world's import growth rate. Furthermore, importation of consumer goods has been dominant in Ghana and Tanzania, contributing 34% and 47% to total imports, respectively. In the case of South Africa, consumer goods imports remained higher than intermediate goods imports, accounting for 32% of total imports (World Bank, 2015). These are worrying trends considering that these countries implemented trade liberalisation policies in efforts to mend their trade balances and balance of payments and boost their economic conditions.

Although there is vast empirical literature on the determinants of import demand, very few empirical studies have focused on South Africa, Ghana and Tanzania. Some of the studies conducted in these and other countries suffer from a number of weaknesses. For example, some of the studies used only two explanatory variables and did not disaggregate the income and import demand variables. Furthermore, some of the studies used co-integration techniques such as the Engle and Granger (1978) two staged method and the Johansen and Juselius (1990) techniques, which have been found to have several weaknesses.

It is against this backdrop that the current study attempts to address these weaknesses by, firstly, estimating the key determinants of import demand in South Africa, Ghana and Tanzania, using both aggregate and disaggregate import demand models. Secondly, unlike some of the previous studies, the current study disaggregates the gross domestic product variable into various components, namely, investment spending, exports of goods and

services, consumer spending and government spending. Lastly, the study uses seven explanatory variables to address the omission- of -variable -bias, which is prevalent in some of the previous studies that have used aggregated gross domestic product as a proxy for income.

The study aims to provide a clear understanding of the key determinants of import demand in each of the three countries, and this should enable policymakers to predict deviations on balance of payments and terms of trade, and assist in decision making on short-run and long-run development strategies and trade related policies, including import demand management policy.

To our knowledge, this study may be the first of its kind to extensively examine the key determinants of both aggregate and disaggregate import demand.

1.3 Objectives of the study

The general objective of this study is to empirically examine the key determinants of aggregate and disaggregate import demand for three selected African countries, i.e. South Africa, Ghana, and Tanzania.

The specific objectives are to:

(i) Examine the structure and evolution of import performance and trade policies for the three selected African countries.
(ii) Empirically investigate the key factors that drive aggregate and disaggregate import demand in the three selected African countries.
(iii) Empirically examine the long-run and short-run relationships between import demand and its determinants in the three selected African countries.
(iv) Examine whether the determinants of import demand differ from country to country and are dependent on the import category used.
(v) Draw policy implications and recommendations based on the empirical findings of this study.

1.4 Hypotheses

The hypotheses tested in this study are that:

(i) The key determinants of aggregate and disaggregate import demand in South Africa, Ghana and Tanzania are relative import price, foreign exchange reserves,

investment spending, government spending, consumer spending, trade liberalisation policy and exports of goods and services.

(ii) Foreign exchange reserves, investment spending, government spending, consumer spending, trade liberalisation policy and exports of goods and services have a positive impact on aggregate and disaggregate import demand in South Africa, Ghana and Tanzania.

(iii) Relative import price has a negative impact on aggregate and disaggregate import demand in South Africa, Ghana, and Tanzania.

(iv) The determinants of import demand differ from country to country and are dependent on the import category used.

1.5 Organisation of the study

This study is presented in eight chapters. Chapter One gives a background to the study, highlighting the problem it seeks to answer, the objectives of the study, as well as its justification. Chapters Two, Three and Four provide the structure and evolution of import performance, and trade policies for South Africa, Ghana, and Tanzania, respectively. Chapter Five provides a critical review of the existing international theoretical and empirical literature on the key determinants of import demand. Chapter Six discusses the research methodology employed in the study. Chapter Seven presents the findings from the analysis and Chapter Eight concludes the study and presents key policy recommendations.

CHAPTER 2

AN OVERVIEW OF SOUTH AFRICA'S IMPORTS

2.1 Introduction

This chapter provides an overview of South Africa's imports. It covers the structure, behaviour and possible determinants of the country's desire to import. The chapter covers three salient aspects: The first is a discussion on the main import policy reforms in South Africa, before and after the advent of democracy, and the regulation of imports in the country. The second is the structure of South Africa's imports and trends during the period 1994 to 2012. This includes the country's import relations with the world at aggregate level, and South Africa's imports structure and behaviour, disaggregated by product and source. The third issue covered relates to import trends, with comparison made between observed trends and the behaviour of identified potential determinants. A conclusion is given at the end of the chapter.

2.2 Trade policy and trade reforms in South Africa

Apartheid policies began loosening in the early 1990s. Before then, the country's trade regime was characterised by excessive protection built around high tariffs, formula duties, imports surcharges, and direct controls (Kusi, 2002). Trade policy had been primarily focused on imports substitution, which was meant to induce manufacturing in the domestic market. When this failed to produce the intended results, the country started moving towards exports promotion in the early 1980s (Edwards and Schoer, 2001). Cassim (2003) notes that, during this period, more effort was put towards improving conditions for exporters through liberalisation, with less attention paid to encouraging imports.

In 1983, the government reduced the value of imports subject to quantitative restriction from 77% to 23%. This led to imbalances in the country's balance of payments, which had negative effects on the trade liberalisation process. To curb this, import surcharges of 10% were introduced by GATT. Subsequently, in 1985, import surcharges were increased from 10% to 60% (Kusi, 2009; Edwards, 2006).

In 1988, differential surcharge rates of 60%, 10%, 20% and 10% were introduced on luxury goods, capital goods, motor vehicle and intermediate goods, respectively. Application of *ad verolem* and formula duties also increased (Bell, 1997 cited in Edwards, 2006). In 1990, the country started moving towards liberalisation and this was followed by the removal of import surcharges. For example, import surcharges were reduced from 60% to 40%, 10%

to 5%, 20% to 15%, and 10% to 5% on luxury goods, capital goods, motor vehicle and intermediate goods, respectively (Edwards, 2006; Jonsson and Subramanian, 2000).

By 1992, the share of imports affected by quantitative restrictions had been reduced to less than 15% of tariff lines. Sectors that were still highly restricted included agriculture, food and beverages, and rubber, tobacco and clothing, with 74%, 90% and 59% of their imports subject to quantitative restriction, respectively (GATT, 1993 cited in Jonsson and Subramanian, 2000 and Edwards, 2006).

Coinciding with the democratic elections in 1994, the country continued to adopt more liberal policies, which resulted in elimination of the quantitative restrictions on imports. This led to a significant improvement in imports as it encouraged the country to access foreign markets in order to meet domestic demand. In the same year, the government committed to promoting import controls. This was replicated in the implementation of the General Agreement on Tariffs and Trade (GATT) Uruguay Round offer, which the country announced in 1994. As articulated in Edwards (2006), WTO (1998) and Jonsson and Subramanian (2000), the main purpose of this offer was to:

- Reduce the number of tariff lines from over 13 000 to the six-digit level by 15% in the first year, and by 30% or higher by 1999,
- Bind 98% of all tariff lines at the harmonised system of eight digit level as opposed to 18% before the round, and to replace all quantitative restriction and formula duties with *ad valorem* tariffs,
- Rationalise over 12 000 tariff lines,
- Grant special provisions to some industries, and
- Replace quantitative restrictions on agricultural products with tariffs, and lower all bound agricultural tariffs by 21% on average and reduce export subsidies by 36%.

Since the period 1992 to 1995, the country has managed to reduce both the total number of its tariff lines and the number of non-*ad valorem* tariffs. It has also abolished all import surcharges. The year 1995 was also marked by the country's entry into the World Trade Organisation (WTO, 1998; Edwards, 2006).

During this period, South Africa was one of the countries that signed the Southern African Development Community (SADC) Declaration and Treaty, which transformed the Southern African Development Coordination Conference (SADCC) to the SADC in 1992.

In 1996, the country formulated a new Tariff Rationalisation Process (TRP) which included a complete restructuring of the incentives given to trade, industry and agriculture (Holden and Casale, 2000). Measures adopted included:

- Reduction of tariff lines and peaks,
- Conversion of formula and specific duties to *ad valorem* rates,
- Introduction of a duty-free subsidy for imports with no substitutes, and
- Introduction of a maximum of 30% *ad valorem* rates on final products, 20% on intermediate goods and 10% on primary goods (Edwards, 2006).

In the same year, the country was involved in the signing of the SADC Free Trade Protocol. In terms of imports, the Protocol emphasised elimination of import duties and phasing out of quantitative restrictions on imports of goods coming from SADC member countries (Sadcstan, 1996). The year 1997 was marked by a reduction in the number of tariff lines carrying formula duties, from 1 900 in 1993 to 28 in 1993, and a reduction in the number of product lines facing specific tariffs, from 500 to 227, respectively (Jonsson and Subramanian, 2000).

In 1999, the country signed the Trade, Development and Co-operation Agreement (TDCA) between South Africa and the European Union. In terms of trade, this agreement contained a free trade agreement which allows South Africa to import goods from the EU at a zero tariff rate. The year 2000 was marked by the implementation of TDCA between South Africa and European parties (SA-EU trade) and the implementation of the SADC Free Trade Protocol.

In 2002, the country participated in the introduction of a new institutional structure through the Southern African Customs Union (SACU) which is composed of Botswana, Lesotho, Namibia, South Africa and Swaziland. In 2004, the South Africa signed a preferential trade agreement between MERCOSUR members (Argentina, Brazil, Paraguay and Uruguay) and SACU. The year 2006 was marked by the signing of a free trade agreement between SACU and the European Free Trade Association (EFTA). This Agreement was intended for trade in goods, and to lay a foundation for further engagement between the two Parties with regards to intellectual property, investment, trade in services and public procurement (EFTA, 2008). By this time, the number of tariff lines had been reduced to 6 420 (DTI, 2009).

In 2008, SACU signed a Trade, Investment and Development Cooperative Agreement (TIDCA) with the United States of America (SACU, 2008). In the same year, negotiations

on the Tripartite Free Trade Area (TFTA) took place between member countries of the SADC, the East African Community (EAC) and the Common Market for Eastern and Southern Africa (COMESA). According to the COMESA-EAC-SADC Tripartite (2008), this was meant to establish a larger market, with a single economic space. The main objective of the Tripartite Free Trade agreement was to:

- Promote economic and social development of the regions,
- Create a large single market with free movement of goods and services to promote intra-regional trade,
- Enhance the regional and continental integration processes, and
- Build a strong Tripartite Free Trade Area for the benefit of the people of the region.

(Tralac, 2010)

The TFTA was finalised and signed in December 2011. In the same year, the country entered into the BRICS partnership, which involves South Africa, China, India, Russia and Brazil. Table 2.1 below provides a summary of the country's imports-related trade policy reforms in chronological order covering the period 1983 to 2012.

Table 2.1: The chronology of South Africa's imports policy reforms

Year	Policy reform
1983	• Reduction of the value of imports subject to quantitative restriction from 77% to 23% • Decrease in real exchange rate • Relaxation of import permits by switching from a positive list to a negative list
1985	• Introduction of 10% import surcharges • Increase in imports surcharge from 10% to 60%
1988	• Differential surcharge rates introduced on luxury goods (60%), capital goods (10%), motor vehicle (20%) and intermediate goods (10%), respectively
1990	• Import surcharges reduced on Luxury goods, Capital goods, Motor Vehicle and Intermediate goods
1994	• Import surcharges on capital and intermediate goods abolished • Quantitative restrictions converted to tariffs

1995	• Remaining import surcharges abolished
1994-1997	• Import controls on agricultural products removed
1996	• New tariff rationalisation process formulated • SADC protocol signed
1999	• SA-EU Trade, Development and Co-operation Agreement (TDCA) signed
2000	• Implementation of the SADC Free Trade Protocol • Implementation of the SA-EU Trade, Development and Co-operation Agreement (TDCA)
2002	• Commencement of the SACU agreement
2004	• Preferential Trade Agreement between MERCOSUR and SACU signed
2006	• EFTA-SACU agreement signed
2008	• SACU-USA Trade, Development and Cooperation Agreement (TIDCA) signed • Commencement on the SADC-EAC-COMESA Tripartite Free trade Area
2011	• Joined the BRICS • Signing of the SADC-EAC-COMESA Tripartite Free Trade Area

Source: Kusi (2009); Edwards (2006); Jonsson and Subramanian (2000); WTO (1998); DTI (2015); SACU (2008); EAC-SADC-Tripartite (2008)

Since its ascension to democracy, South Africa has continually established strategic trade partnerships with both developing and developed countries. This includes bilateral, unilateral, intra-regional and inter-regional trade agreements. Most significantly, after democracy, the country entered into three main trade agreements; the SA-EU Trade Development and Cooperation Agreement, SADC Free Trade Agreement and the Southern African Customs Union.

2.2.1 South Africa-European Union Trade Agreement

The trade partnership between South Africa and the EU is governed by the SA-EU Free Trade Agreement (FTA) emanating from the TDCA which was established in 1999 and implemented in the year 2000. The agreement aims to introduce bilateral free trade between the two parties over a 12-year period, consistent with WTO rules. The agreement covers

90% of the current bilateral trade between the two Parties (Kalaba.*et.al*, 2005; EU, 2000). The FTA terms state that the agreement covers mainly industrial and agricultural products. Furthermore, South Africa is expected to progressively reduce import duties on different groups of products at different rates over the years starting from the commencement date of the agreement. Notably, by year 2012 the country was expected to have liberalised 86% of its duties on products originating from the EU (EU, 2000).

2.2.2 South Africa-SADC

South Africa joined the Southern African Development Community in 1994 and it has, since then, regarded the region as one of its major African partners in terms of foreign relations. The country is the largest economy in the region and has taken a lead in economic integration and collaborative efforts towards improving the economies of other SADC member countries (DIRCO, 2004). South Africa is a front-runner in the region in terms of trade, and it accounts for a large portion of the region's total trade. The country's trade relations with other SADC members are governed by the SADC Free Trade Agreement which was established under the SADC Trade Protocol which was signed and implemented in 1996 and 2000, respectively. This Protocol governs trade between South Africa and its SADC trade partners and seeks to liberalise SADC intra-regional trade in goods and services (Maringwa, 2009). The Free Trade Agreement applies to only 12 SADC members, that is, Botswana, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. Within the region, the country has established two reciprocal trade arrangements with Zimbabwe and Malawi.

(i) **South Africa-Zimbabwe:** The bilateral trade agreement between South Africa and Zimbabwe was established in 1964 (Maringwa, 2009) and is set to be terminated in 2018. This agreement was characterised by provision of preferential rates of duty, quotas and rebates on selected products. The agreement was reviewed in 1996 to include new tariffs and quotas on textile imports to South Africa from Zimbabwe (CED, 2017).

(ii) **South Africa-Malawi:** South Africa has an asymmetrical bilateral trade agreement with Malawi which was signed in 1990. This arrangement has gone through several reviews which include removal of duties on commodities moving between the two countries (Maringwa, 2009).

The nature and terms of the two arrangements and other new agreements are summarised in Table 2.2 below.

Table 2.2: Summary of imports related agreements that affect South Africa

Agreement	Countries involved	Terms of the agreement
Customs Union	South Africa, Botswana, Lesotho, Namibia and Swaziland.	Duty-free trade of goods with a common external tariff on goods entering any of the countries from outside SACU.
Free Trade Agreement	12 SADC Member States (Botswana, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe).	85% duty-free trade which must be achieved by 2008. 15% of trade was to be liberalised from 2009 to 2012 which was the target date for the SADC region to accomplish the status of a complete FTA, with almost all tariff lines traded duty free.
Free Trade Agreement	South Africa and the EU.	South Africa agreed to liberalise 86% of its duties on certain products originating from the EU by 2012.
Free Trade Agreement	SACU and the European Free Trade Association - Iceland, Liechtenstein, Norway and Switzerland.	Tariff reductions on selected goods.
Bilateral Preferential Trade Agreement	South Africa and Zimbabwe.	Preferential rates of duty, rebates and quotas on certain goods traded between the two countries.
Bilateral agreement	South Africa and US.	Provides a bilateral forum for the two countries to address issues of interest, including AGOA, TIDCA, trade and investment promotion, non-tariff barriers, SPS, infrastructure and others.

Trade Free Agreement	EFTA States and the SACU States.	Reduction of tariffs on certain products. These include industrial and agricultural goods.
Preferential Trade Agreement between SACU and Southern Common Market	SACU, Brazil, Paraguay and Uruguay.	Reduction of tariffs on selected goods before 2012.

Source: Author's own computation from the Department of Trade and Industry, 2014

2.3 Regulation of imports in South Africa

Trade policies in South Africa are administered by the International Trade Administration Commission (ITAC) which was established in 2002 in terms of the International Trade Administration Act of 2002. The main function of the ITAC involves customs tariff investigations, trade remedies, and import and export control (ITAC, 2011). The International Trade Administration Act of 2002, is supplemented by other pieces of legislation such as the Customs and Excise Act, 1964 (Act 91 of 1964), the Promotion of Administrative Justice Act, 2000 (Act 3 of 2000), and the Promotion of Access to Information Act, 2000 (Act 2 of 2000). Import controls, which include tariff barriers and non-tariff barriers, are used to control the volume or value of imports coming into the country. Tariff barriers are duties imposed on goods to control the amount of goods imported, while non-tariff barriers are restrictions, conditions or specific requirements that make importation costly (Trade Barriers, 2011). According to ITAC (2011), these controls are used to:

- Ensure that industry-sensitive goods are imported in a regulated manner,
- Ensure that importers comply with environmental requirements,
- Assist agencies in enforcing other regulations, e.g. safety,
- Ensure compliance with the provisions of international agreements.

2.4 South Africa's tariffs

A significant aspect of trade policy reforms in South Africa after democracy in 1994 was the removal of trade restrictions and adjustments on tariffs. The Tariff regime for South Africa includes the intra-SACU rate, Most-favoured-nation (MFN) applied rate, and preferential tariffs for EFTA countries, EU countries and for SADC countries. Table 2.3 below presents South Africa's import tariff profile on all HS 6 product groups.

Table 2.3: South Africa's total tariff schedule in 2014

	Final bound duties				MFN applied duties			Imports	
Product groups	**AVG**	**Duty-free**	**Max**	**Binding**	**AVG**	**Duty-free**	**Max**	**Share**	**Duty-free**
		in %		in %		in %		in %	in %
Animal products	41.7	24.2	160	100	10.6	60.6	*40*	0.7	36.6
Dairy products	93.2	0	96	100	9.7	23.8	*25*	0.2	6.3
Fruit, vegetables,	28.3	19.3	99	100	9.2	34.9	*99*	0.5	27.9
Coffee, tea	65.4	20.8	170	100	7.5	45.8	25	0.4	36.4
Cereals &	47	5.4	597	100	8.5	43.0	*103*	1.9	75.4
Oilseeds, fats &	47.5	6.5	81	98.6	7.6	20.5	20	1.7	5.4
Sugars and	73.4	0	105	100	3.6	88.2	37	0.2	83.8
Beverages &	91.1	4.3	597	100	20.5	8.8	*120*	0.8	7.3
Cotton	60	0	60	100	4.4	66.7	15	0.1	2.1
Other agricultural	11.9	54.8	72	100	2.2	85.5	25	0.6	80.5
Fish & fish	18.5	50.0	37	3.2	6.2	62.7	30	0.4	69.1
Minerals & metals	11.7	16.1	30	96.0	3.7	73.4	30	9.4	78.1
Petroleum	-	-	-	0	0.7	55.6	15	22.7	74.4
Chemicals	12.4	6.4	30	99.6	2.3	83.1	20	10.9	80.1
Wood, paper, etc.	11.7	12.2	30	100	6.1	61.5	45	2.6	57.2
Textiles	22.3	3.1	30	99.2	17.1	18.1	*> 1000*	1.9	16.0
Clothing	45	0	45	100	41.0	2.1	45	1.5	0.3
Leather, footwear,	20.7	0	30	96.2	13.3	35.6	43	2.8	23.8
Non-electrical	9.2	39.6	30	100	1.4	90.7	30	16.1	93.8
Electrical	17.2	6.1	30	99.6	4.6	67.5	25	8.9	70.8
Transport	18.3	17.5	50	100	6.1	66.1	30	11.3	30.2
Manufactures,	12.4	26.6	30	94.8	3.8	78.4	30	4.5	89.5

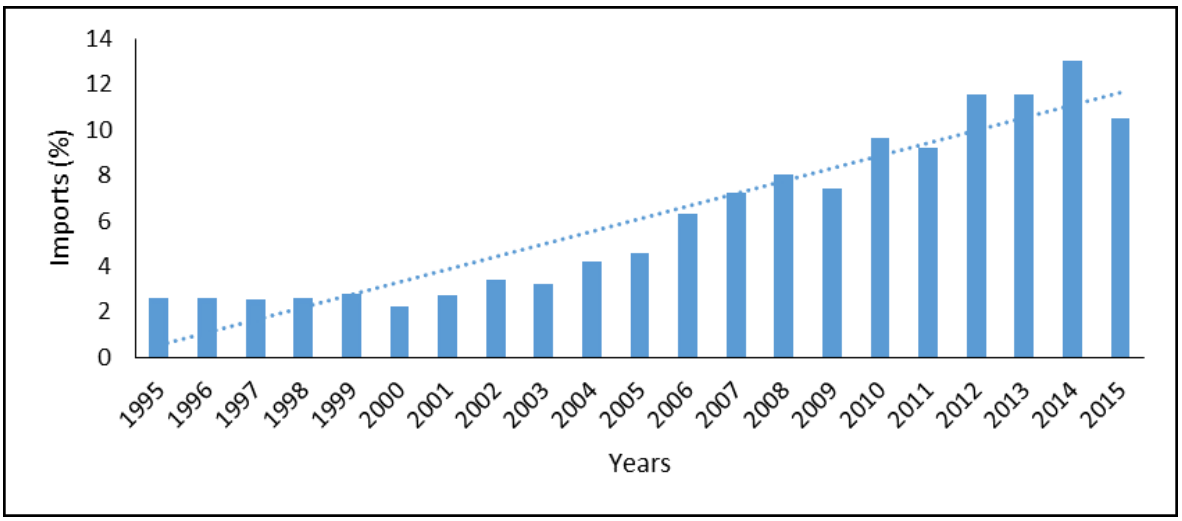
Source: World Trade Organisation tariff profile (2014)

The country has been successful in binding its import tariffs and has made significant progress in opening its economy through tariff removal and reduction. For example, over the period 1996 to 2014, the binding coverage was above 90% (see Table 2.3). The country has also made significant strides in liberalising most of its import tariff lines.

2.5 An overview of South Africa's imports

Imports play a significant role in the South African economy. This is shown by the increasing amount of goods imported into the country and the increasing trade deficit. Figure 2.1 presents the import penetration ratio, which measures the extent to which a country relies on foreign goods for domestic consumption.

Figure 2.1: South Africa's import penetration ratio (1995-2015)



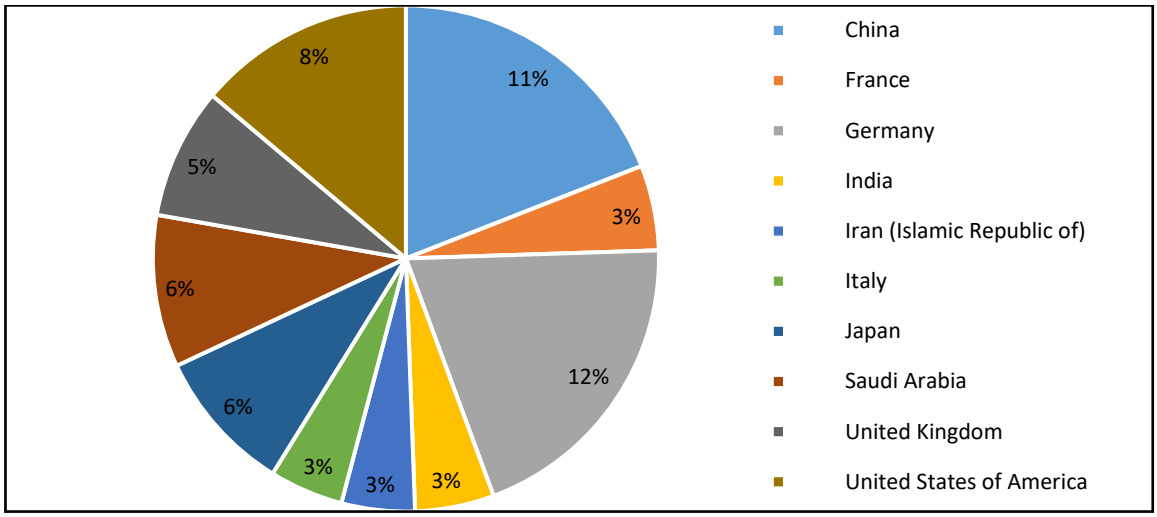
Source: Author's own computation based on UNCTADSTAT database

South Africa's import penetration ratio has increased rapidly over the years, with fluctuations in between. Manufactured goods make up a large percentage of these imports. Edwards and Jenkins (2013) attribute the rapid increase in import penetration in South Africa's manufacturing industry to the bilateral trade relationship between South Africa and China, as China became the largest import source for South Africa in 2009, especially for capital goods (see Table 2.4).

2.5.1 South Africa's major imports sources in the world

South Africa trades with both developing and developed countries in the world. In terms of imports, the country's major partners are primarily developed countries. The top eight sources of the county's imports are Germany, United States, United Kingdom, China, Japan, Angola, Saudi Arabia and China. Figure 2.2 and Table 2.4 below present the composition of imports by major import source over the period 1995 to 2015.

Figure 2.2: Annual average share of import products by major imports origin over the period (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

Table 2.4: Share of South Africa's imports by major imports source

YEAR	China	France	Germany	India	Iran	Italy	Japan	Saudi Arabia	United Kingdom	United States of America
1995	4%	4%	14%	1%	4%	4%	7%	7%	9%	12%
1996	4%	4%	14%	1%	4%	4%	7%	7%	9%	12%
1997	4%	4%	14%	1%	4%	3%	8%	7%	9%	12%
1998	4%	4%	14%	1%	4%	4%	7%	7%	9%	12%
1999	4%	4%	15%	1%	4%	4%	7%	6%	9%	12%
2000	4%	4%	13%	1%	4%	3%	8%	8%	8%	12%
2001	4%	4%	15%	1%	4%	4%	7%	7%	8%	12%
2002	5%	4%	16%	1%	4%	4%	7%	5%	9%	12%
2003	6%	6%	15%	1%	4%	3%	7%	6%	9%	10%
2004	8%	6%	14%	1%	5%	3%	7%	6%	7%	9%
2005	9%	4%	14%	2%	4%	3%	7%	6%	6%	8%
2006	10%	4%	13%	2%	4%	3%	7%	5%	5%	8%
2007	11%	3%	12%	2%	4%	3%	7%	5%	5%	8%
2008	11%	3%	11%	3%	4%	2%	6%	6%	4%	8%
2009	13%	3%	12%	3%	4%	3%	5%	5%	4%	8%
2010	14%	3%	11%	3%	4%	2%	5%	4%	4%	7%
2011	14%	3%	10%	4%	4%	3%	5%	4%	4%	8%
2012	14%	2%	10%	4%	1%	2%	4%	8%	3%	7%
2013	16%	2%	10%	5%	0%	3%	4%	8%	3%	6%

2014	16%	2%	10%	5%	0%	3%	4%	7%	3%	7%
2015	18%	2%	11%	5%	0%	3%	4%	3%	3%	7%

Source: Author's own computation based on UNCTADSTAT database

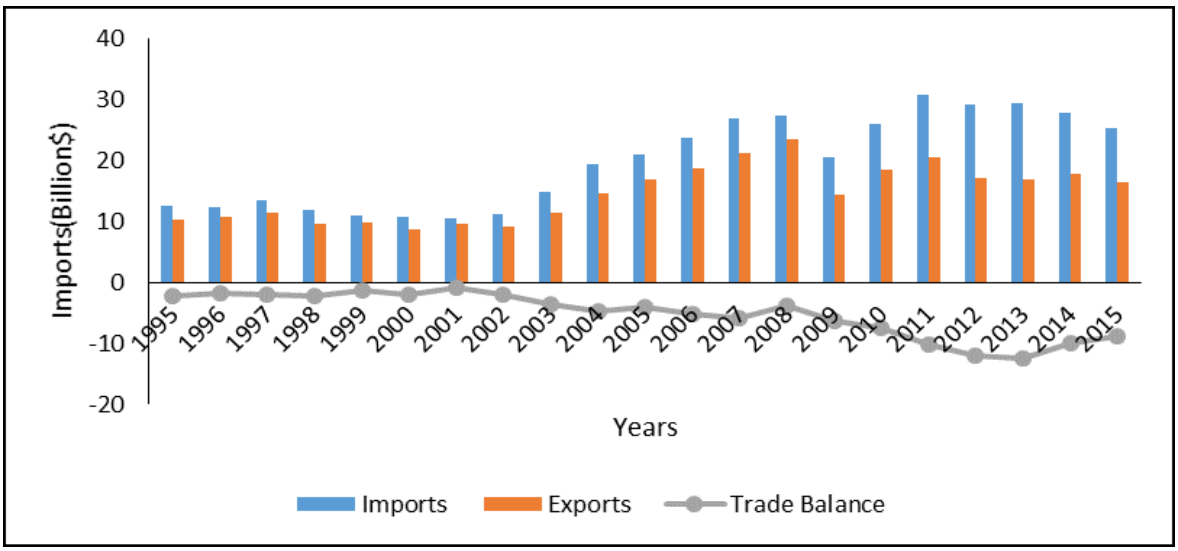
A large portion of South Africa's imports originate from Germany. As shown in Figure 2.2, on annual average, Germany accounted for 12% of South Africa's imports between 1995 and 2015. The share of imports from Germany has been fluctuating over the years, from 14% in 1995 to 11% in 2015. In 2009, Germany was overtaken by China which had, since 2006, become the second largest imports source for South Africa (see Table 2.4). Currently, China ranks first among South Africa's main trade partners, followed by Germany (2nd) and the US (3rd). The high performance of these countries in terms of their exports to South Africa has also been boosted by the strong partnerships that South Africa has established with them.

Among the regions, the EU has been the largest regional source of South Africa's imports over the years. According to UNCTADSTAT database (2015), the average share of imports from the EU over the periods 1995-2003 and 2004-2015 was 37% and 30%, respectively. According to the WTO (2008), Germany has always been among the top six sources of South Africa's imports. Western Asia, the North American Free Trade Area and Eastern Asia also contribute a significant share towards South Africa's imports relative to other regions.

2.5.2 South Africa's imports relations with the European Union

As indicated before, the EU-SA trade agreement is one of the largest trade partnerships that South Africa entered into after democracy. It is therefore necessary to analyse the effect that the partnership has had on South Africa's imports by observing trends on imports originating from the EU in the period after 1995. Figure 2.3 presents South Africa's performance in terms of trade with the EU.

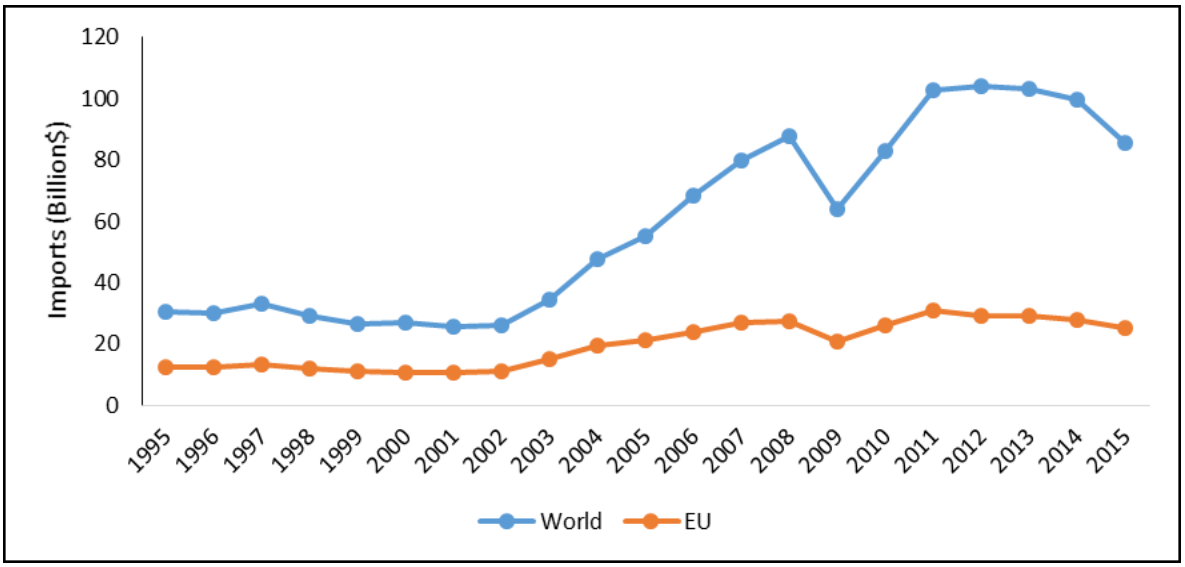
Figure 2.3: South Africa's trade balance with the EU (1995-2015)



Source: UNCTADSTAT database

South Africa has always been a net importer in its trade with the EU, as it has had a recurring trade deficit over the years. This implies that the country had been importing more than it exports to the EU (see Figure 2.3).

Figure 2.4: Trends in South Africa's aggregate merchandise imports from the EU and world (1995-2015)

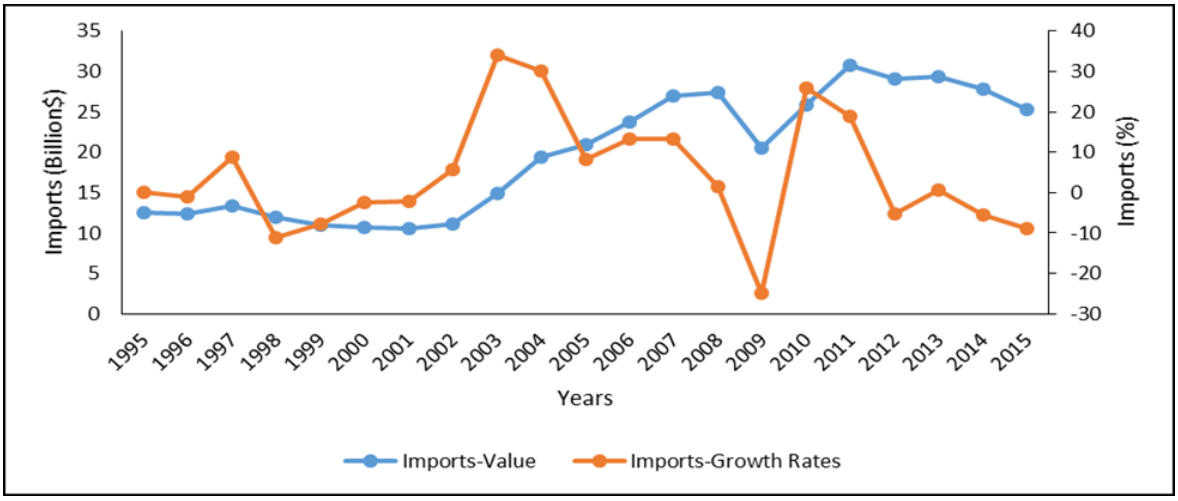


Source: UNCTADSTAT database

Figure 2.4 shows the trends in South Africa's merchandise imports from the EU and from the world. The trend in the country's imports from the EU is similar to that of imports from

the world. This is not unexpected, given that the EU is the largest import source for South Africa's imports.

Figure 2.5: Trends in South Africa's total merchandise imports from the EU (1995-2015)



Source: UNCTADSTAT database

Figure 2.5 shows trends based on annual changes in the country's merchandise imports from the EU. In the early years of democracy, South Africa's imports from the EU fluctuated between US$5 billion and US$15 billion. However, in 2003, the country experienced a rapid increase of more than 50% in product imports. This could have been due to the Free Trade Agreement between South Africa and European Union which was implemented in 2000. In 2009, the country's imports from the EU fell drastically by 27%, influenced in part by the 2008-2009 global recession.

Table 2.5: South Africa's top 10 merchandise imports from the EU by product

YEAR	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
Petroleum oils or bituminous minerals > 70 % oil	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	2%	2%	3%	4%	6%	4%	3%	3%	3%	2%
Medicaments (incl. veterinary medicaments)	4%	4%	4%	4%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	4%	4%	4%	4%	3%	3%	3%	4%
Paper and paperboard	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	2%	2%	2%	2%	2%	2%	1%	2%	2%	2%	2%	2%
Civil engineering & contractors' plant & equipment	2%	2%	2%	2%	2%	1%	2%	2%	2%	2%	2%	2%	3%	3%	2%	2%	3%	3%	2%	2%	2%	2%
Other machinery for particular industries	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	2%	2%	2%	2%	2%	2%
Automatic data processing machines	3%	3%	3%	3%	3%	4%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	2%
Telecommunication equipment & parts	9%	9%	10%	9%	9%	10%	8%	8%	6%	6%	7%	6%	5%	4%	3%	4%	4%	2%	2%	1%	1%	5%
Motor vehicles for the transport of persons	6%	6%	6%	6%	6%	5%	6%	6%	7%	9%	10%	10%	9%	5%	6%	7%	8%	8%	9%	8%	9%	8%
Parts & accessories of vehicles	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	3%	3%	3%	2%	2%	2%	2%	3%	2%
Aircraft & associated equipment; spacecraft, etc	1%	1%	1%	1%	1%	1%	1%	1%	5%	6%	5%	1%	2%	2%	2%	3%	2%	2%	1%	1%	1%	2%

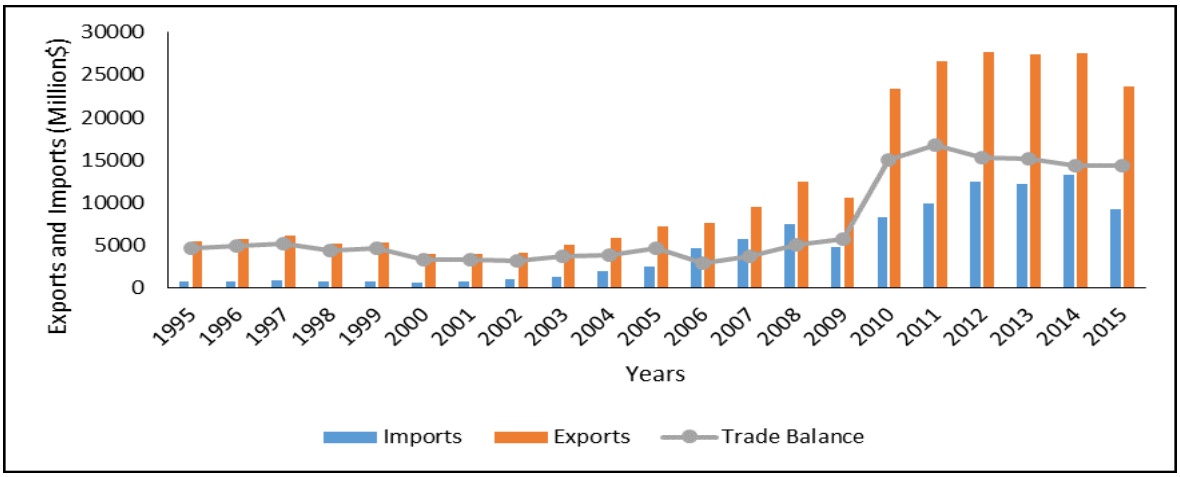
Source: Author's own computation based on UNCTADSTAT database

Table 2.5 above shows the annual average share of South Africa's imports from the EU from 1995 to 2015. It appears that telecommunications equipment and motor vehicles for the transport of persons are the main contributors over the reported period and this still makes manufactured goods the most imported product category in South Africa.

2.5.3 South Africa's import relations with Africa

South Africa is the largest economy on the African continent and has put the continent on the global economic map through its foreign relations with developed countries from continents such as Europe, the Americas and Asia. On the African continent, South Africa appears to be the largest trade partner for numerous African countries and regions. This sub section provides details on the nature of South Africa's trade relations with African countries, focusing on imports.

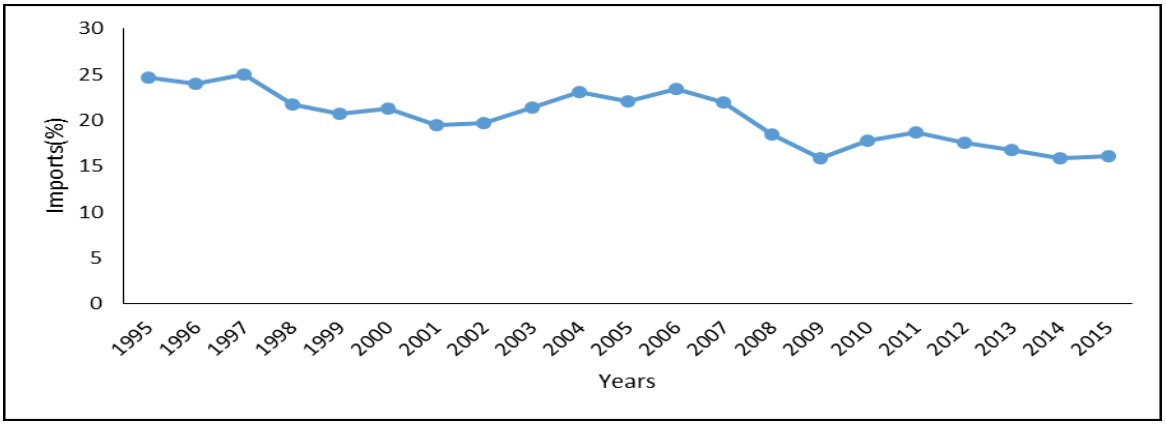
Figure 2.6: South Africa's merchandise trade and trade balance with the African continent (1995-2015)



Source: UNCTADSTAT database

The trends presented in Figure 2.6 show that South Africa exports to African countries more than it imports from them. Over the period 1995 to 2015, the country recorded a trade surplus with African countries. This implies that the country has a comparative advantage on a large number of products when compared to its African counterparts. The drastic increase in exports from South Africa to other African countries since 2010 can be attributed to the trade agreements that the country signed onto with its counterparts in different African regions since 2000. These include the SADC Protocol on Trade and the SADC-EAC-COMESA Tripartite Free Trade Area agreement. Figure 2.7 presents the trends in South Africa's imports as a share of Africa's imports from the world.

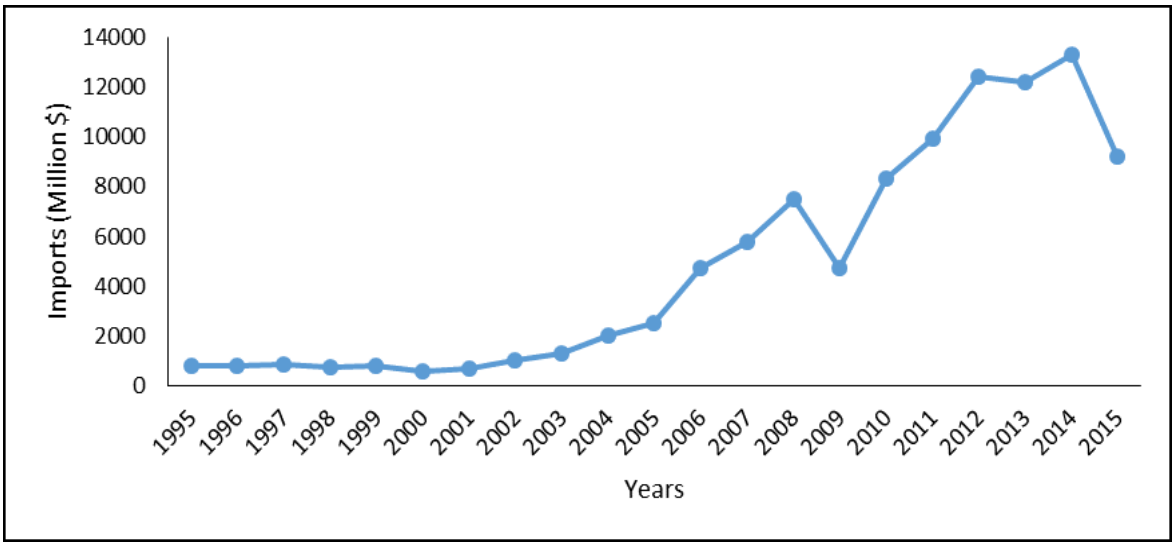
Figure 2.7: South Africa's total imports as a percentage of Africa's imports from the world (1995-2015)



Source: UNCTADSTAT database

South Africa's total imports mirror the trends in Africa's imports. On average, the country contributes a significant amount (more than 24%) towards Africa's total imports from the world.

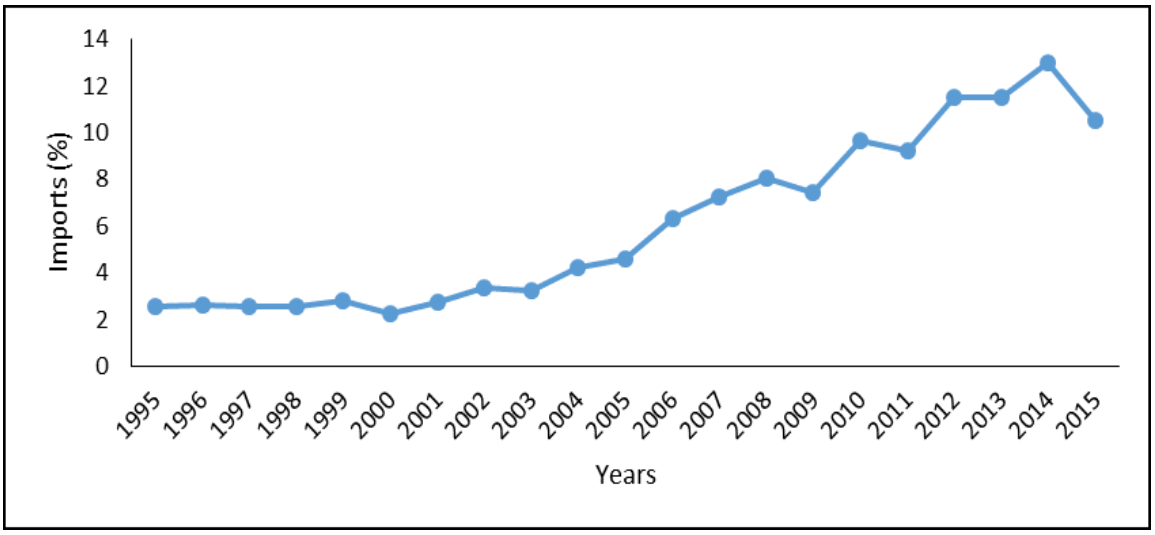
Figure 2.8: South Africa's imports from Africa (1995-2015)



Source: UNCTADSTAT database

In terms of imports, the country's interaction with Africa was very weak in the early years following democratic transition (1995-2001). However, as the country entered into trade agreements, and reduced barriers to trade, the amount of imports coming from Africa rose from US$1.42 billion in 2001 to US$8 billion in 2015.

Figure 2.9: South Africa's imports from African countries as a percentage of imports from the world (1995-2015)



Source: *UNCTADSTAT database*

As Figure 2.9 shows, over the period 1995-2015, the continent accounted for an average 6% share of the country's imports from the world. While this is significant, there is still a need to encourage stronger import relations among African countries through formulation of stronger imports policies, as effective trade will not only have a positive impact on South Africa's imports, but on other African economies as well.

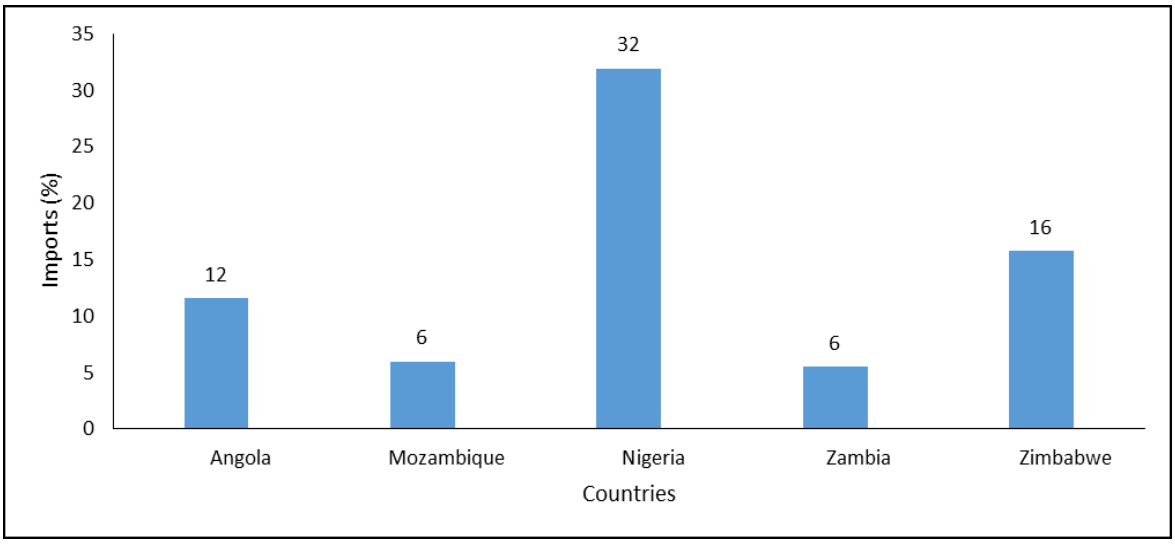
Table 2.6: South Africa's top 10 import products from Africa

YEAR	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
Sugar, molasses and honey	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	2%	2%	2%	2%	2%	3%	1%
Cotton	6%	6%	5%	6%	6%	5%	6%	6%	5%	6%	3%	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%	3%
Nickel ores & concentrates; nickel mattes, etc.	1%	2%	1%	1%	2%	0%	0%	5%	10%	9%	9%	7%	8%	6%	0%	0%	2%	0%	0%	0%	2%	3%
Petroleum oils, oils from bitumin. materials, crude	37%	38%	36%	38%	39%	31%	42%	41%	34%	55%	41%	53%	59%	61%	71%	51%	47%	54%	54%	62%	49%	47%
Petroleum oils or bituminous minerals > 70 % oil	0%	1%	0%	0%	1%	0%	0%	2%	1%	0%	1%	3%	1%	2%	1%	1%	6%	5%	6%	2%	1%	2%
Natural gas, whether or not liquefied	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	3%	2%	2%	2%	2%	3%	3%	1%
Electric current	1%	1%	1%	1%	1%	0%	1%	1%	0%	0%	0%	0%	2%	2%	4%	3%	2%	2%	1%	2%	2%	1%
Essential oils, perfume & flavour materials	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	2%	3%	2%	3%	1%
Pearls, precious & semi-precious stones	0%	0%	0%	0%	1%	0%	0%	1%	2%	1%	18%	13%	7%	7%	4%	2%	1%	2%	2%	2%	2%	3%
Copper	2%	2%	2%	2%	2%	3%	2%	2%	1%	3%	4%	3%	2%	2%	2%	2%	3%	2%	2%	1%	2%	2%

Source: Author's own computation based on UNCTADSTAT database

Petroleum oils, oils from bitumen materials and crude, account for a large portion of South Africa's imports from Africa. As Table 2.6 above shows, these products accounted for 38%, 19% and 44% of the country's imports from Africa in 1995, 2001 and 2007, respectively. In 2015, petroleum oils, oils from bitumen materials and crude, accounted for almost half of South Africa's total imports from Africa.

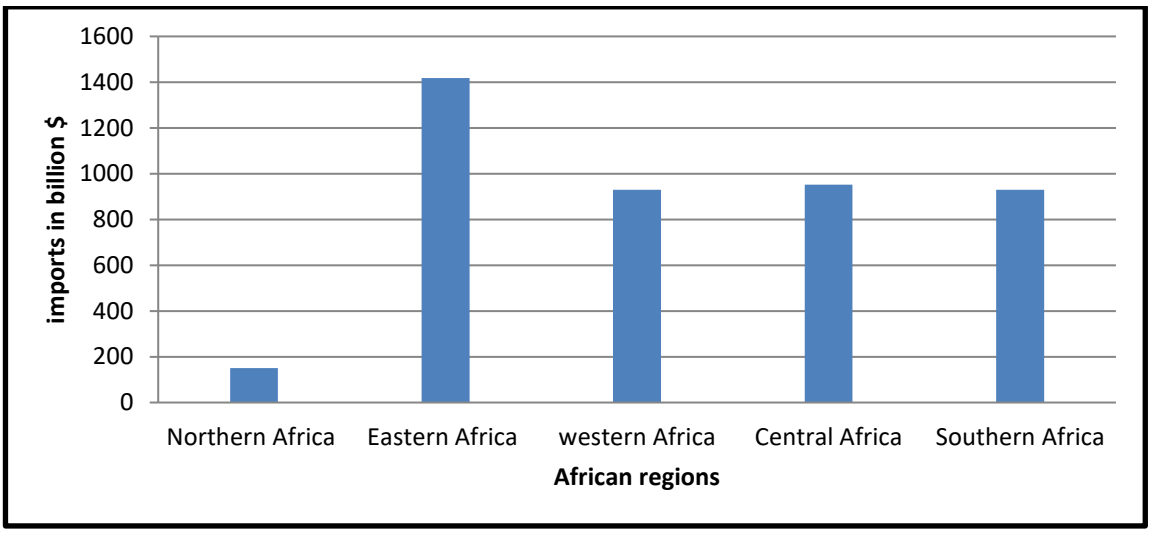
Figure 2.10: Top 5 African sources for South Africa's imports by country (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

Figure 2.10 shows that between 1995 and 2015, the main African sources of imports for South Africa included Nigeria (32%), Zimbabwe (16%), Angola (12%), Zambia (6%), and Mozambique (6%). Nigeria's performance as South Africa's largest African imports origin during this period could persist into the future as the two countries have recently established bilateral trade agreements between themselves.

Figure 2.11: Annual average total of South Africa's imports by African region (1995-2015)



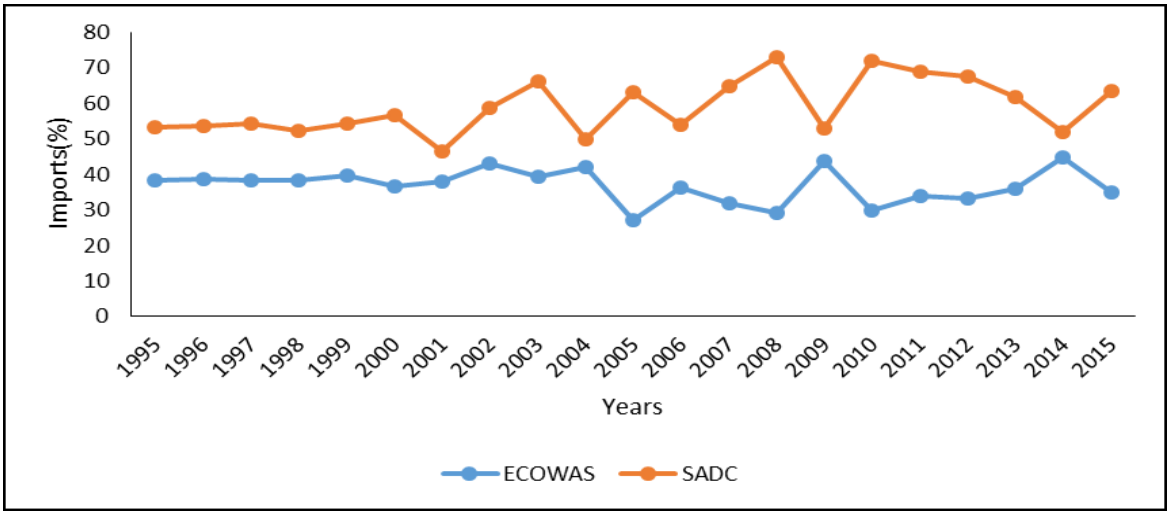
Source: UNCTADSTAT database

South Africa's trade relations in terms of imports are at different levels across African regions. Figure 2.11 above shows that on annual average in the period 1995-2015, East African countries accounted for a larger percentage of South Africa's imports from Africa, with the North African region exporting very little to South Africa.

2.5.4 South Africa's imports relations with African regional groupings

South Africa is a member of various regional groupings in Africa. This includes COMESA and SADC. The trends in imports from these regions are presented in Figure 2.12.

Figure 2.12: Share of South Africa's imports from COMESA and SADC (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

The SADC region accounts for a larger percentage of South Africa's imports from Africa compared to other African regional groupings. On annual average, SADC accounted for 62% of imports from Africa to South Africa, while COMESA accounted for 35%. Table 2.7 presents SADC's imports by Member State over the period 1995-2015.

Table 2.7: SADC's imports by Member State (1995-2015)

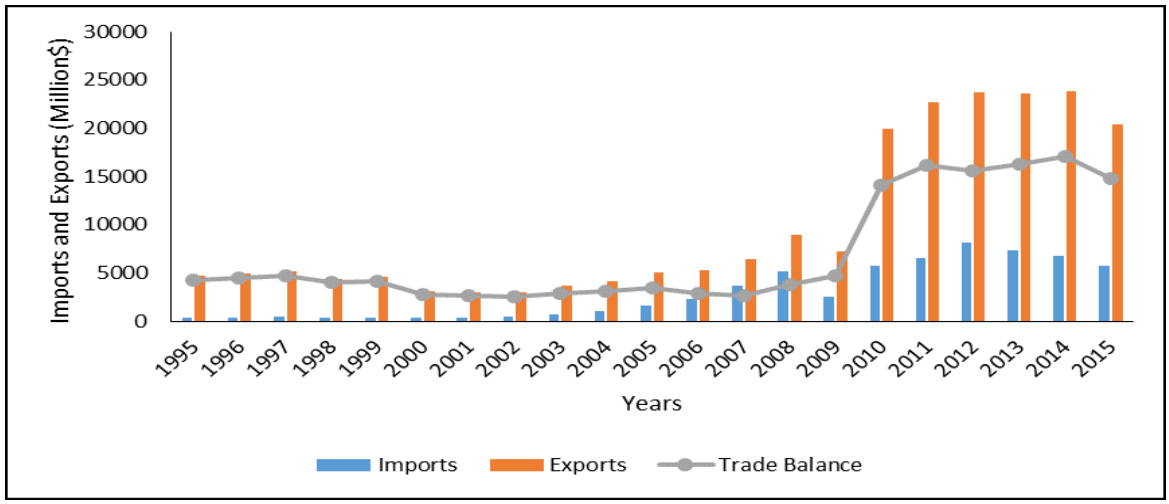
Member State	Annual average share	Value of annual average imports in Millions of $
Angola	11%	246863
Botswana	4%	85832
Dem. Rep. of the Congo	3%	63501
Eswatini	1%	31282
Lesotho	1%	32056
Madagascar	2%	39887
Malawi	1%	29485
Mauritius	3%	72274
Mozambique	3%	74234
Namibia	3%	78972
Seychelles	1%	14190
South Africa	55%	1243688

United Republic of Tanzania	5%	112231
Zambia	3%	78963
Zimbabwe	3%	61839

Source: Author's own computation based on UNCTADSTAT database

As shown in Table 2.7, South Africa accounts for more than half (55%) of SADC's total imports followed by Angola (11%), while Lesotho (1%), Malawi (1%) and Seychelles (1%) remain the lowest contributors towards the region's total imports. South Africa's great input towards the region's imports and total trade can be attributed to its economic state relative to other SADC member countries, and trade arrangements that the country has with other non-SADC developed countries. This includes the SA-EU Trade, Development and Cooperation Agreement, among other initiatives. Figure 2.13 presents South Africa's trade balance with the SADC region.

Figure 2.13: South Africa's trade balance with the SADC region (1995-2015)

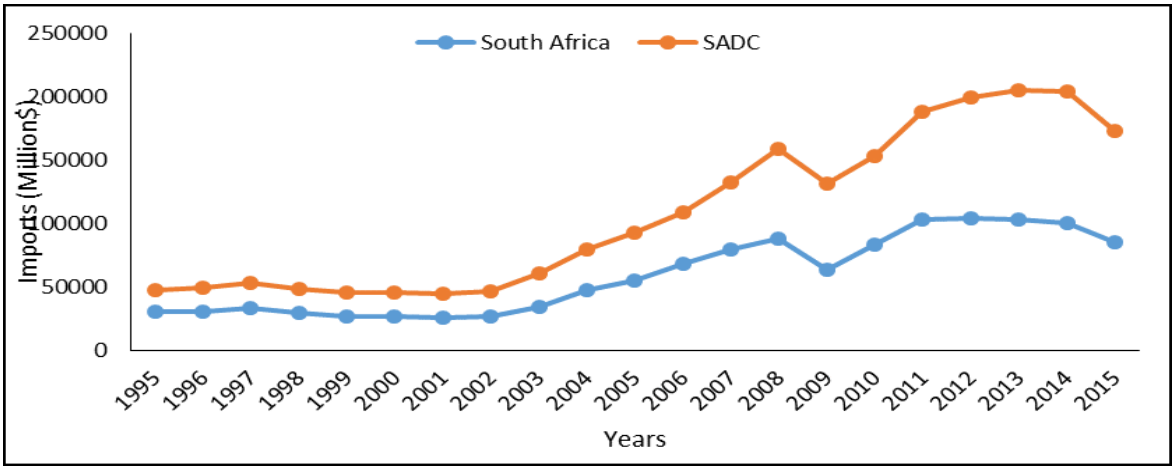


Source: UNCTADSTAT database

Since democracy, South Africa has consistently recorded trade surplus from its trade with other SADC countries. According to ITAC (2014,) in 1999 and 2000, a large portion of South Africa's trade surplus with the world came from the SADC region. Over the periods 1995-2005 and 2010-2015 the gap between imports and exports was very wide, with the value of exports to the region almost three times the value of South Africa's imports from SADC countries. The increase in the exports to from South Africa to other SADC countries can be attributed to the bilateral trade agreements that the country has established with many

countries in the region, and the SADC Protocol on Trade which came into force in 2000. Figure 2.14 presents South Africa's merchandise imports from the SADC region.

Figure 2.14: South Africa's merchandise imports from SADC (1995-2015)



Source: UNCTADSTAT database

South Africa's total imports from the world resemble similar trends as the SADC's total imports. As the main contributor towards the region's imports, a change in South Africa's imports performance often leads to significant adjustment in SADC's total imports. Table 2.8 presents a geographical breakdown of South Africa's imports from SADC.

Table 2.8: South Africa's merchandise imports from SADC region by Member State

Member State	Imports in Millions of $	Annual average share (%)
Angola	18401	32%
Botswana	3537	6%
Dem. Rep. of the Congo	215	0%
Eswatini	6492	11%
Lesotho	1559	3%
Madagascar	569	1%
Malawi	1289	2%
Mauritius	1424	2%
Mozambique	7640	13%
Namibia	4361	8%
Seychelles	54	0%
United Republic of Tanzania	713	1%
Zambia	3937	7%
Zimbabwe	7219	13%

Source: Author's own computation based on UNCTADSTAT database

It appears that most of South Africa's imports from SADC are from Angola and Mozambique. Over the reported period (1995-2015), Angola and Mozambique's merchandise exports to South Africa amounted to an annual average of US$8401 million and US$7640 million which is 30% and 13% of total SADC's merchandise imports into South Africa, respectively. Table 2.9 presents South Africa's top 10 merchandise imports from the SADC region.

Table 2.9: South Africa's top 10 merchandise imports from the SADC region by product

Top 10 Products	Annual average distribution in %	Value of imports in Millions of $
Sugar, molasses and honey	2%	1382
Cotton	2%	1161
Nickel ores & concentrates; nickel mattes, etc.	4%	2278
Petroleum oils, oils from bitumen materials, crude	30%	18419
Petroleum oils or bituminous minerals > 70 % oil	4%	2452
Natural gas, whether or not liquefied	3%	2001
Electric current	3%	1715
Essential oils, perfume & flavour materials	3%	1585
Pearls, precious & semi-precious stones	6%	3355
Copper	3%	1997

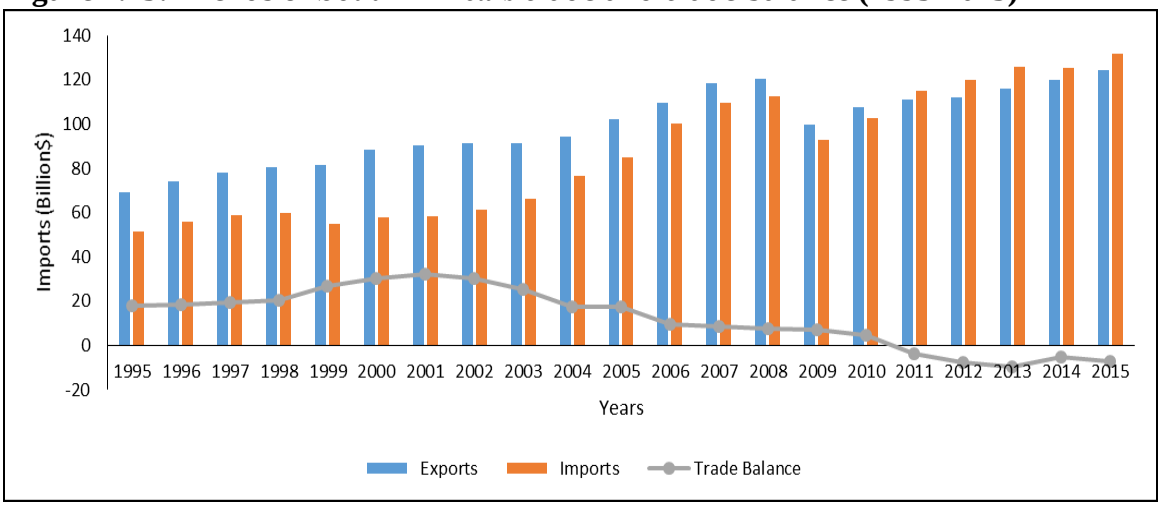
Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database

The country's imports from SADC countries are dominated by primary commodities and manufactured products. Petroleum oils, oils from bitumen materials and crude are the main commodities imported by South Africa from SADC countries. These account for 30% of the total merchandise imports from the SADC region.

2.6 Structure and performance of South Africa's trade

South Africa ranks among the top 50 country contributors to world trade. According to WTO (2014), in 2003, the country ranked 33rd in terms of merchandise imports and 30th in terms of service imports, while it ranked 40th in terms of merchandise exports, and 47th in terms of service exports. Figure 2.15 below depicts trends in South Africa's trade and trade balance.

Figure 2.15: Trends of South Africa's trade and trade balance (1995-2015)



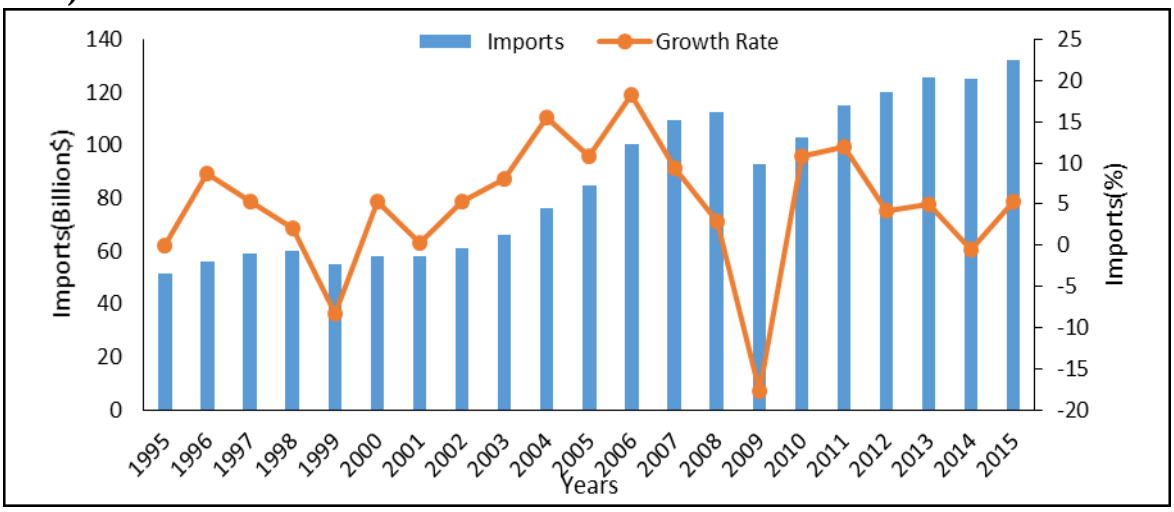
Source: Author's own computation based on UNCTADSTAT database

In the early years of the post-apartheid period (1994-2003), South Africa recorded a positive trade balance (see Figure 2.15). However, the dominance of exports had started declining. According to Tips (2006), this can be attributed to changes in the rand exchange rate as it is one of the factors that contributed to the high level of exports in the country over the period 2001-2003. In 2004, there was a rapid change; imports started growing faster than exports, which, in turn, resulted in a trade deficit. IDC (2013) attributes this to the significant increase in household consumption expenditure and public sector infrastructure investment during the period 2003 and 2007. The increase in the cost of production, resulting from the economic recession in 2008, also compounded the trade deficit.

2.6.1 Structure and Performance of South Africa's imports from the world

The country's basket of imports has been expanding over the years. As a result, imports as a percentage of GDP remained significant at plus 20%. This has been influenced by the policy reforms that the country adopted after the democratic elections in 1994. Figure 2.16 presents trends in imports and imports growth rate over the period 1995-2015.

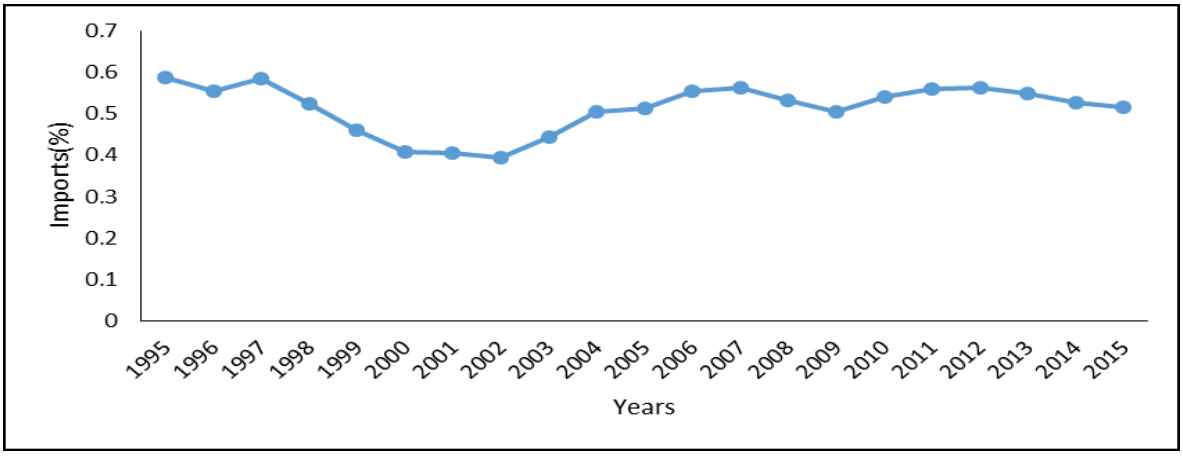
Figure 2.16: South Africa's value of total imports and imports growth rate (1995-2015)



Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database

The rate at which imports have been increasing over the years has fluctuated between -20% and 35%. Notably, in 2009 the country experienced a drastic decline in imports. This was due to the global recession and its effects on the economy during that period.

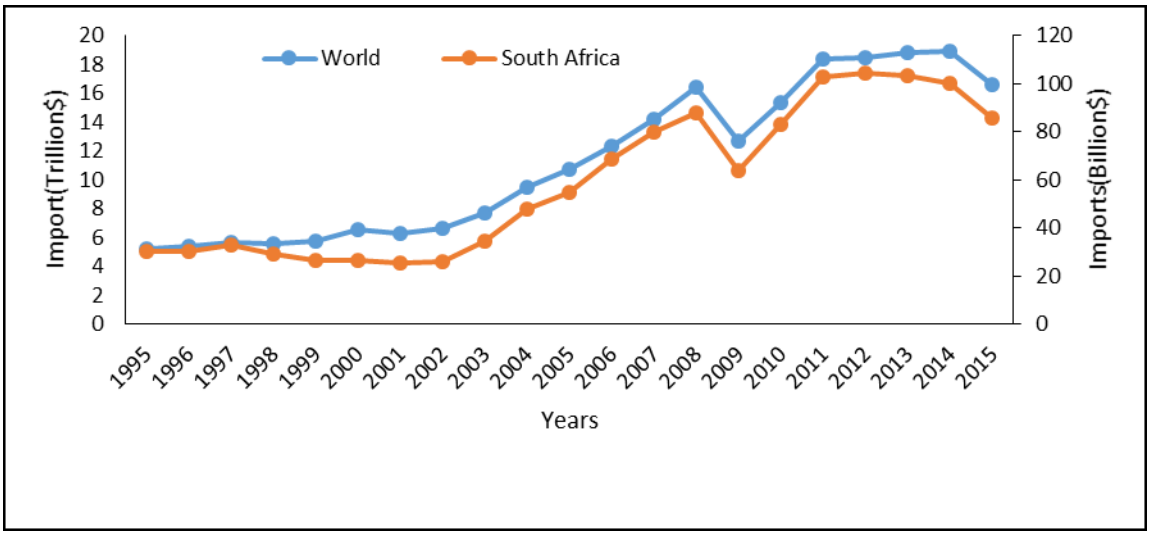
Figure 2.17: South Africa's value of imports as a percentage of the world's value of imports (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

Figure 2.17 above presents South Africa's imports as a percentage of the world's imports. The country's share in the world's imports ranged between 0.5% and 0.7% over the period 1995-2015.

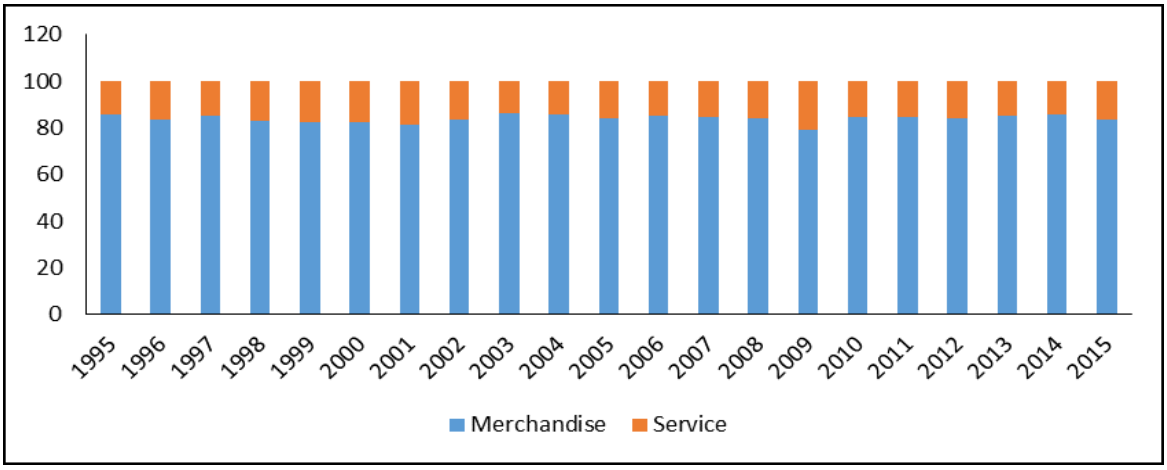
Figure 2.18: Trends of South Africa's value of imports against the world's value of total imports (1995-2015)



Source: UNCTADSTAT database

Figure 2.18, depicts trends of South Africa's imports with the worlds imports and shows that over the years, South Africa's imports have mirrored the trends in the world's imports. Figure 2.19 shows the share of service imports and product imports to total imports.

Figure 2.19: South Africa's value of import products and services as a percentage of total trade (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

The picture clearly shows that commodities account for a larger share (more than 80%) of the total of South Africa's imports. Estimates from UNCTADSTAT (2015) show that the country's merchandise imports have been growing faster than service imports over the years. Table 2.10 presents annual trends in individual product imports as a share of South Africa's total merchandise imports from the world.

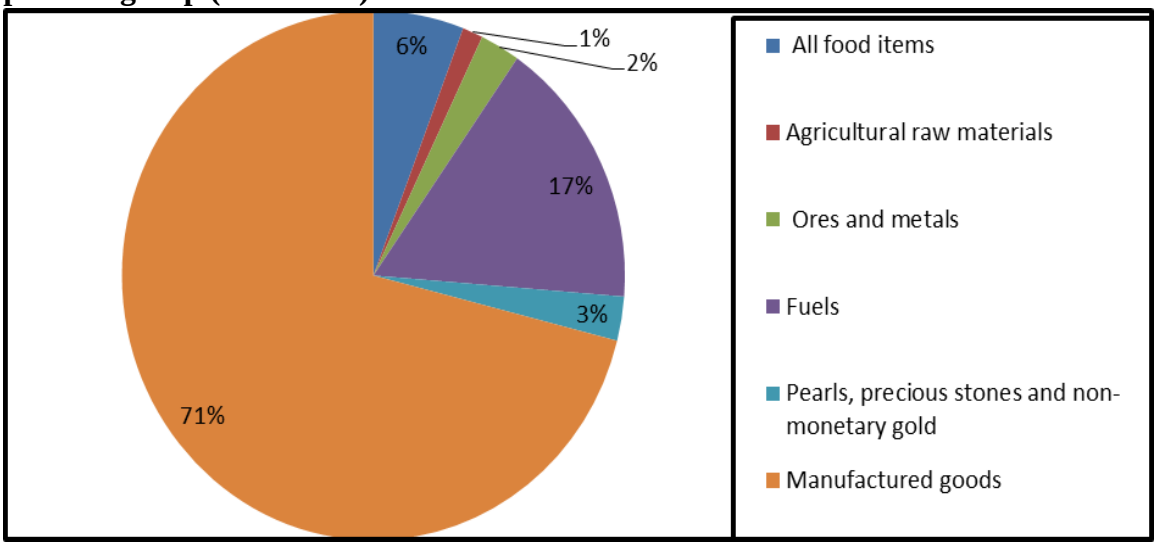
Table 2.10: South Africa's import products as a percentage of total products in 1995-2015

YEAR	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
Aluminium ores and concentrates (incl. alumina)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	1%	0%	1%	1%
Petroleum oils, oils from bitumin. materials, crude	12%	12%	12%	12%	12%	13%	12%	11%	10%	12%	12%	14%	14%	17%	16%	14%	14%	15%	14%	16%	9%	13%
Petroleum oils or bituminous minerals > 70 % oil	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	4%	4%	4%	4%	4%	6%	6%	6%	6%	5%	3%
Medicaments (incl. veterinary medicaments)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Miscellaneous chemical products, n.e.s.	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Paper and paperboard	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Pearls, precious & semi-precious stones	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Internal combustion piston engines, parts, n.e.s.	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Civil engineering & contractors' plant & equipment	1%	1%	1%	1%	1%	1%	1%	2%	2%	1%	1%	2%	2%	2%	1%	1%	2%	2%	2%	2%	2%	2%
Other machinery for particular industries, n.e.s.	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Heating & cooling equipment & parts thereof, n.e.s.	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Pumps (excluding liquid), gas compressors & fans; centre	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Mechanical handling equipment, & parts, n.e.s.	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Automatic data processing machines, n.e.s.	3%	3%	3%	3%	3%	3%	3%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Parts, accessories for machines of groups 751, 752	1%	1%	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Telecommunication equipment, n.e.s.; & parts, n.e.s.	6%	6%	6%	5%	5%	6%	5%	5%	4%	4%	5%	4%	4%	4%	4%	5%	4%	4%	4%	4%	5%	5%
Apparatus for electrical circuits; board, panels	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Cathode valves & tubes	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	1%	1%	0%	0%	1%	1%	1%	1%
Electrical machinery & apparatus, n.e.s.	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Motor vehicles for the transport of persons	3%	3%	3%	3%	3%	3%	4%	4%	4%	5%	7%	6%	6%	3%	4%	5%	5%	5%	5%	5%	5%	4%
Motor vehic. for transport of goods, special purpo.	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	2%	1%	1%	1%	2%	1%	1%	1%	1%
Parts & accessories of vehicles of 722, 781, 782, 783	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	1%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Aircraft & associated equipment; spacecraft, etc.	3%	3%	3%	3%	3%	3%	4%	3%	4%	4%	3%	1%	1%	2%	1%	1%	2%	1%	1%	1%	1%	2%
Footwear	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Measuring, analysing & controlling apparatus, n.e.s.	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%

Source: Author's own computation based on UNCTADSTAT database

On annual average, and over the years, the major contributors to the country's total merchandise imports have been petroleum, petroleum products and related materials (14.8%), specialised machinery (4.9%), other industrial machinery and parts (5.3%), telecommunication and sound recording apparatus (4.5%), and road vehicles (8.9%). Except for petroleum, petroleum products and related materials, most of these products are categorised as capital goods. Since South Africa is perceived as a capital-poor country, it is commendable to have capital goods as one of the dominant product imports as this would have positive implications on the economy. Since 1995, machinery and equipment goods have consistently accounted for more than 50% of manufactured goods imported by the country.

Figure 2.20: Average annual composition of South Africa's imports by major product group (1995-2015)



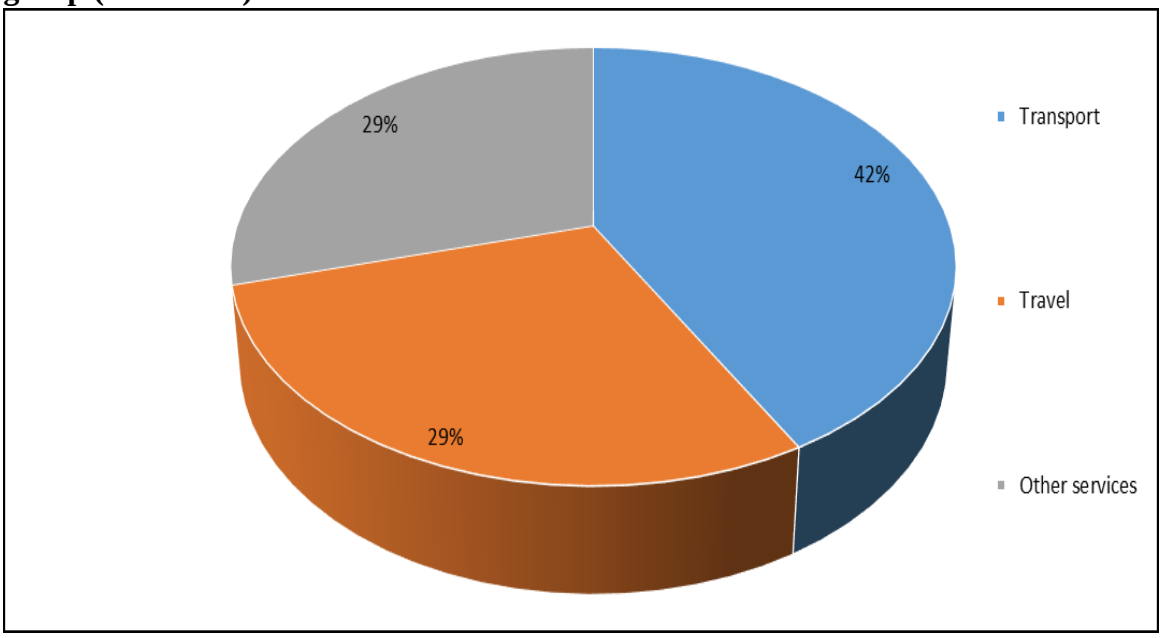
Source: Author's own computation based on UNCTADSTAT database

Figure 2.21: Growth rate on imports for all products and manufactured goods (1995-2015)

Source: Author's own computation based on UNCTADSTAT database

As Figure 2.21 depicts, South Africa's merchandise imports are dominated by manufactured goods, which account for an annual average of 71%. Fuel (17%) accounts for the second largest merchandise product import, followed by all food items (6%). The rate at which the manufactured goods component grows follows a similar trend to that of total products growth (see Figure 2.21). Figure 2.22 depicts the structure and performance of South Africa's service imports for the period 1995 to 2015.

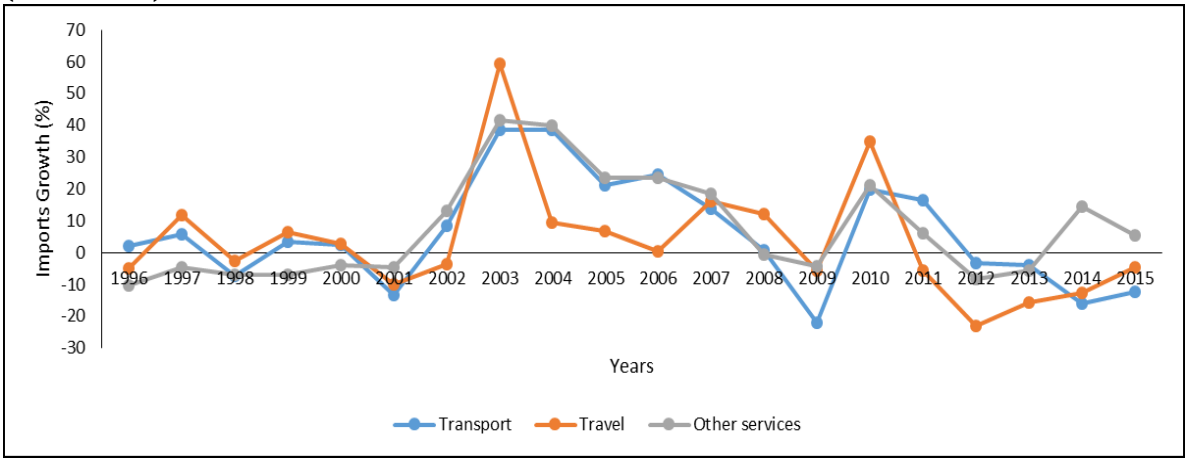
Figure 2.22: Average annual share of imports to total services imports by service group (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

As Figure 2.22 shows, transport services account for the largest portion of South Africa's service imports, with transport services contributing 42%, and both travel services and other services accounting for 29% each, towards the total of South Africa's service imports.

Figure 2.23: Annual growth rate of South Africa's value imports by service group (1995-2015)

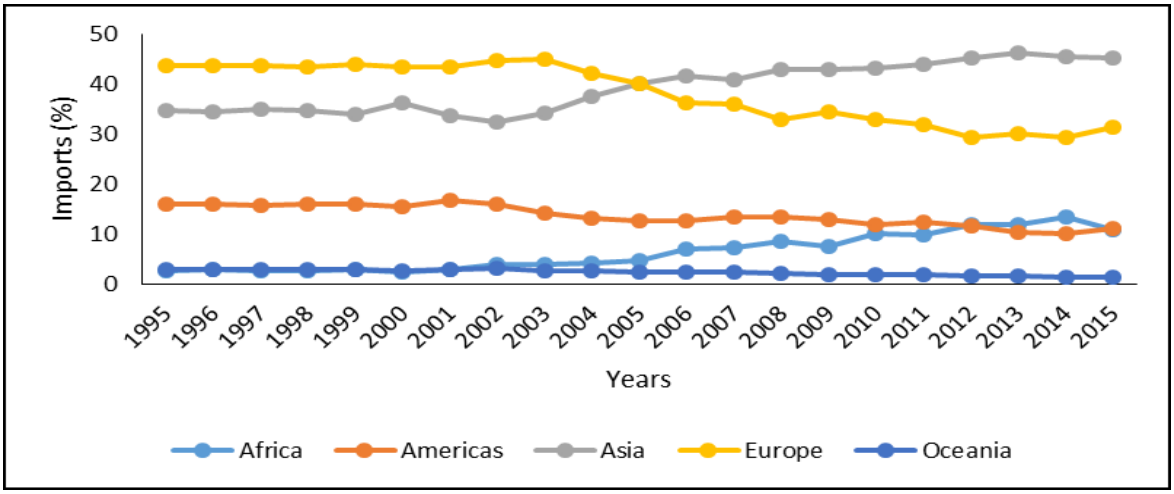


Source: Author's own computation based on UNCTADSTAT database

Relative to other forms of services, travel services appear to have been growing faster over the years (see Figure 2.23). This indicates that, even though the country has a comparative advantage in exporting travel services, it still imports a significant percentage of its travel

services from other countries as they are essential for the economy. Transport services seem to be the slowest growing service in this case.

Figure 2.24: Share of South Africa's imports by continent as a percentage of SA's imports from the world (1995-2015)



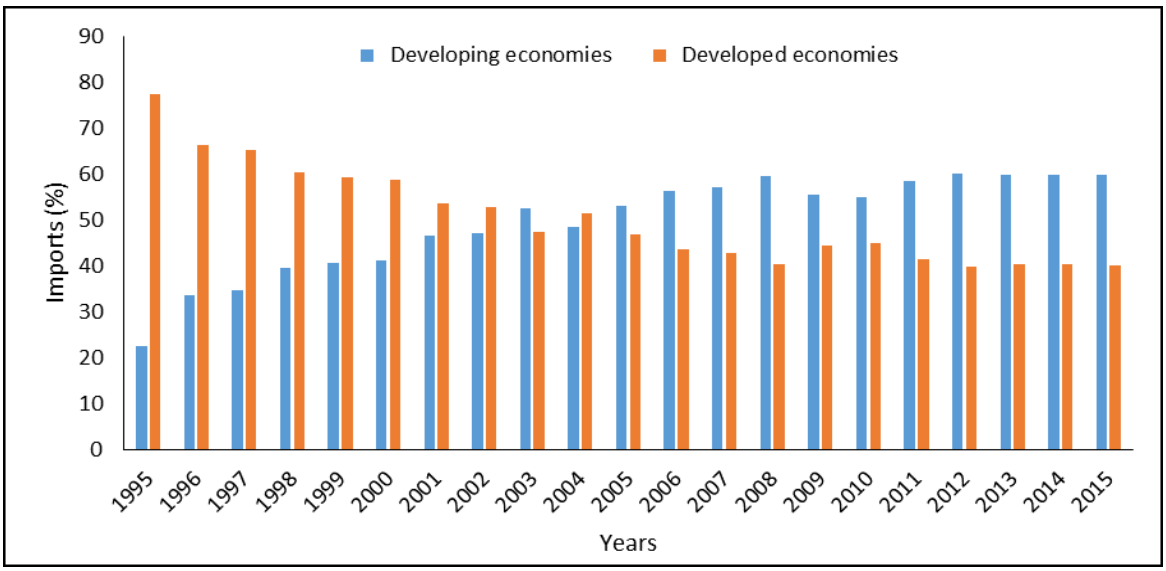
Source: Author's own computation based on UNCTADSTAT database

A large proportion of South Africa's imports comes from Asian, European and countries on the Americas (see Figure 2.24). Between 1995 and 2005, Europe was the largest imports origin for South Africa, with its share of South Africa's imports decreasing over the years from 48% in 1995 to 41% in 2005. In 2015, the share of South Africa's imports originating from Europe had decreased to 31%.

From 2006 to 2015, Europe was overtaken by Asia as imports from Asia grew faster over the years and the latter's contribution increased from 42% in 2006 to 45% in 2015. This can be attributed to the growth in imports originating from China.

On annual average, Africa (5%) and Oceania (2%) remained the lowest exporters to South Africa. The significance of the contribution from Europe, Asia and American countries towards South Africa's trade, particularly imports, can also be attributed to the strategic trade agreements that South Africa has committed its self to with countries from these continents. Figure 2.25 presents the trends in South Africa's imports by country group.

Figure 2.25: South Africa's imports by country group (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

From the early years of democracy until 2007 the country's imports predominantly came from developed countries. However, this changed in 2008 when South Africa's imports from developing countries started growing above imports from developed countries. This might have been influenced by the preferential trade agreements that the country is progressively establishing with middle income and developing countries.

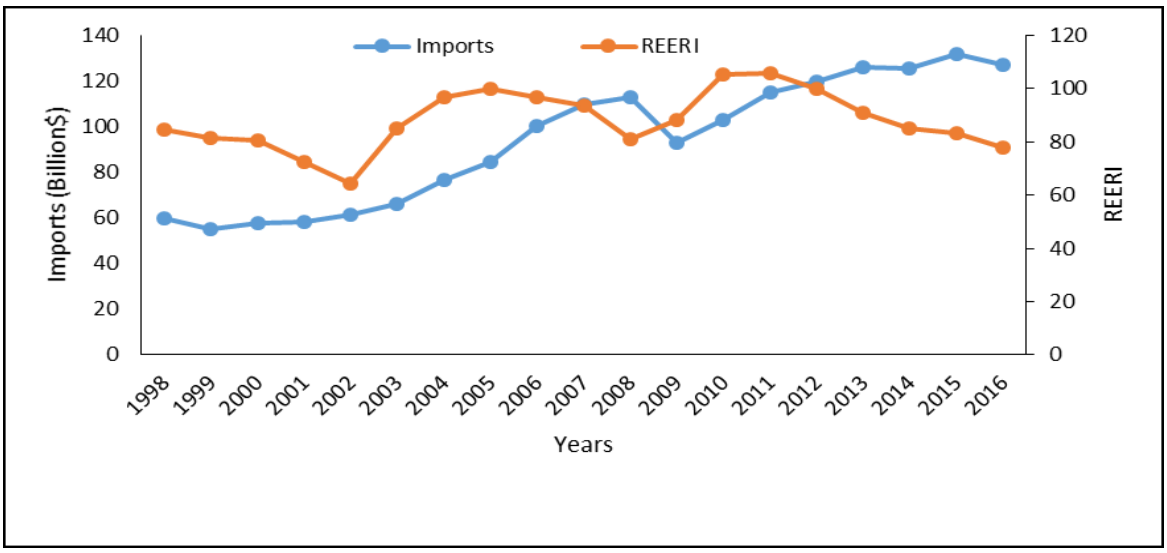
2.7 Factors affecting South Africa's demand for imports

Empirical findings from studies on the demand for imports suggest a number of factors that drive a country's imports. The study by Razafimahefa and Hamori (2005) among others, found that real exchange rates, trade liberalisation, economic growth, foreign reserves and relative import price all have an effect on import demand.

2.7.1 South Africa's real effective exchange rate

Exchange rates exert a strong influence on a country's trade (Kemal, 2005). Also, shifts in the exchange rate result in changes in a country's import demand. According to Samini.*et.al* (2012), as the uncertainty in exchange rate become more intensified, importation will lower. Typically, a decrease in real exchange rate would lead to a decrease in import demand as importation becomes costly. Figure 2.26 below shows trend in exchange rates and imports in South Africa.

Figure 2.26: Exchange rates and imports in South Africa (1998-2016)



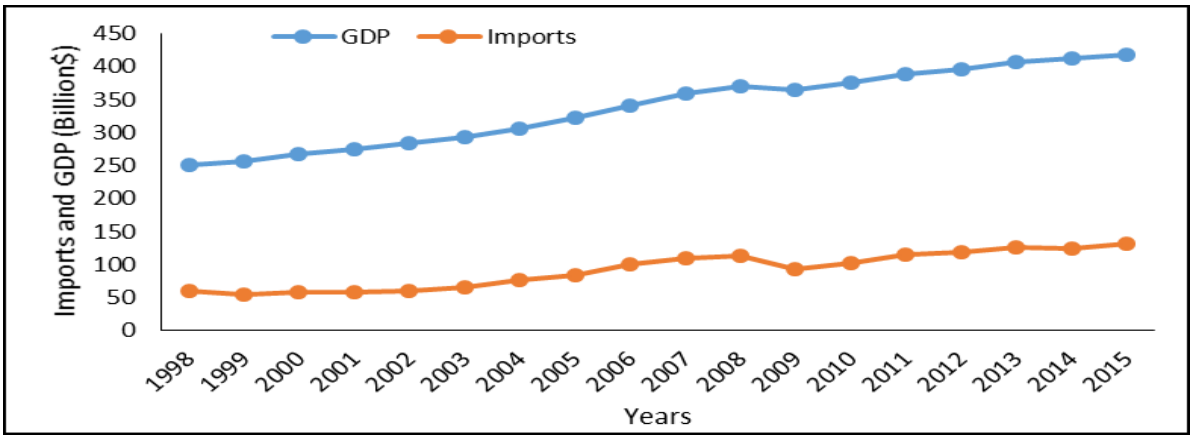
Source: UNCTADSTAT database

As expected, South Africa's imports and real effective exchange rates have generally been moving in opposite directions. In 1997, the rand started weakening gradually, falling from 118.1 in 1997 to 75.1 in 2002, while imports increased. The country experienced a short-lived appreciation between 2003 and 2004. During the late 2000's the real effect exchange rate ranged between 100 and 96 (see Figure 2.26). In response to these changes in real effective exchange rate, the country's imports showed a steady increase over the period under review.

2.7.2 South Africa's economic growth

Between 2006 and 2015 total trade accounted for more than 50% of South Africa's economic growth, with more than 30% coming from imports (World Bank database, 2015). Rivera-Batiz (1985), cited in Gumede (2000), argues that even though imports play a significant role towards growth, their performance still depends on the country's economic performance as a rise in real income leads to high consumption. As Figure 2.27 below shows, for the period 1995-2015, trends in South Africa's import demand and import growth rate matched the country's economic growth.

Figure 2.27: Trends of South Africa's imports demand and economic growth (1998-2015)

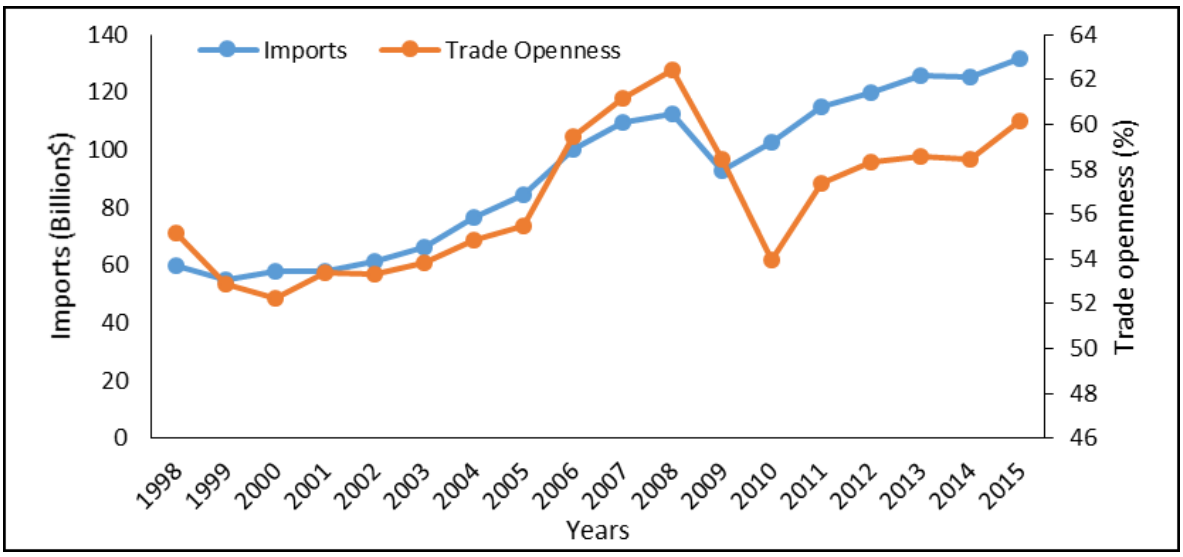


Source: UNCTADSTAT database

2.7.3 South Africa's trade openness

Trade liberalisation in South Africa emanated from the country's transition to a democratic government. It encouraged import demand as it implied lower tariffs. Since 1995, the country has made strides in implementing liberalisation policy, with concomitant growth in imports. For example, the value of imports increased from US$33 billion in 1995 to US$122 billion in 2015 (see Figure 2.28). Also, imports have risen steadily since 2002 with the exception 2008 and 2009 when the trade sector was severely affected by the global economic crisis and experienced a drastic decline. This trend followed the rise in the country's trade openness from 48% in year 2000 to 62% in 2002. Before 2004, the country had been recording a trade surplus. This changed in 2004, as imports increased as a result of the implementation of policies such as the SA-EU free trade agreement.

Figure 2.28: Trade openness and imports in South Africa (1998-2015)



Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database

2.8 Conclusion

This chapter has traced reforms in South Africa's trade policies focusing on the imports side of trade. It provided an analysis of the country's import behaviour and structure over the period 1995 to 2015. It is apparent that trade liberalisation, which was adopted when the country experienced its democratic transition, has led to several trade related reforms over the years. The most significant import related policy reforms started during the 1990's and continued over the years, with a focus on the removal of quantitative restrictions followed by a reduction in the number of *ad valorem* tariffs. This has allowed the country to actively participate in international trade by establishing bilateral, unilateral and intra-regional trade agreements with other countries. Most of South Africa's imports originate from developed countries. Throughout the period under review, the share of imports towards growth has increased significantly. South Africa's imports are dominated by manufactured goods, which account for more than 50% of the country's merchandise imports. In theory, a rise in imports over exports is detrimental to the economy as it implies that the country is spending more on foreign goods, and thus operating with a current account deficit. However, a rise in capital goods imports could still be beneficial for productivity, and in turn, have positive effects on growth and exports. From the foregoing, it is clear that the country's demand for imports is shaped by a number of macroeconomic factors such as the real exchange rate, economic growth, and trade openness.

CHAPTER 3

THE DYNAMICS OF IMPORTS IN GHANA

3.1 Introduction

This chapter provides an overview of Ghana's imports. It covers the structure, behaviour, the possible determinants of Ghana's desire to import and developments in the country's import policy. The chapter is divided into eight sections. Following this introduction, section 3.2 provides an overview of Ghana's main import policy reforms, before and after independence, and import regulation. Section 3.3 gives a summary of Ghana import demand. Section 3.4 covers Ghana's relations with its trade partners, focusing on imports. Section 3.5 looks at the structure, trends and behaviour of Ghana's imports over the period 1995 to 2014. Section 3.6 provides an analysis of factors affecting the country's demand for imports. Section 3.7 looks at the challenges facing Ghana's imports growth. Lastly, section 3.8 concludes the chapter.

3.2 Import reforms in Ghana

Although the country had been actively participating on both sides of trade, that is, imports and exports, importing started gaining momentum a few years after independence in 1957, which widened the country's trade deficit. The discussion which follows provides an overview of policy changes that have had an impact on Ghana's import behaviour since the advent of democracy.

3.2.1 Imports policy reforms in Ghana after independence

The effectiveness of trade in Ghana has been strengthened by trade policy reforms that the country has undergone over the years. Since independence in 1957, the country has experienced two trade and repayment policy reforms, which are commonly referred to as Ghana's trade cycles (Harvey and Sedegah, 2011). According to Jebuni *et al.* (1994), each of these cycles has had five phases. Table 3.1 below presents these cycles.

Table 3.1: Trade reforms in Ghana

Cycle	Period	Phase
Cycle 1	1950-1961	Liberal trade regime
	1961-1963	Introduction of controlled regime
	1963-1966	Breakdown of control system
	1966-1967	Attempted liberalisation
	1967-1971	Import liberalisation
Cycle 2	1972	Introduction of controlled regime
	1973-1983	Breakdown of control system
	1983-1986	Attempted liberalisation
	1986-1989	Import liberalisation
	1989-onwards	Liberal trade regime

Source: Author's own computation based on Jebuni et al. (1994)

The first and second phases in both cycles can be classified as controlled trade regimes, while phases three, four and five are categorised as liberal trade regimes (Harvey and Sedegah, 2011).

The first cycle began concurrently with Ghana's movement towards independence in 1957. Before this, the country was a member of the sterling zone, in which no restrictions were imposed on member countries and import restrictions had been only on certain non-durable goods from non-member countries. After independence, Ghana's economic policies generally required massive government involvement in the economy with relevant and sector specific controls and restrictions (Laryea and Akuoni, 2012). This included industrialisation, which was pursued through a number of development strategies and policies, such as the import substitution policy, which was adopted to encourage domestic production of final goods. Concurrent with the attainment of independence in 1957, Ghana joined GATT (WTO, 2007). Between 1957 and 1961, the country invested more on domestic industrialisation. This resulted in an increase in total government expenditure, which was accounted for largely by capital expenditure, and led to a drastic increase in the budget deficit and demand for imports. Due to the increase in imports, the current account deficit almost doubled in 1961 (Steel, 1972). As a result, the first trade regime only lasted until 1967 (Brafu-Insaidoo, 2008).

Between 1972 and 1982, the Ghanaian government imposed restrictions on imports in an effort to improve its balance of payments. These restrictions included tariffs and import licencing. This period was also characterised by a wide variety of import duties and import taxes aimed at revenue generation. By 1982, the volume of imports and government revenue had gone down, and the country was faced with deteriorating economic performance and foreign exchange rate constraints. In response to this, the government resorted to trade reforms characterised by the replacement of quantitative restrictions with price instruments and the creation of a liberal regime (Brafu-Insaidoo, 2008; Harvey and Sedegah, 2011).

The period after 1983 was marked by trade liberalisation under economic recovery and a structural adjustment programme (ERP and SAP). Measures instituted during this period included tariff adjustment, import liberalisation, foreign exchange liberalisation, deregulation and institutional reforms that effected bodies such as customs, excise, and preventive service (Laryea and Akuoni, 2012). Brafu-Insaidoo (2008) categorised these trade reforms into three phases, namely, the period of attempted liberalisation, the period of import liberalisation and the period of trade liberalisation. The main aim of these reforms was to encourage exports and to improve exchange controls (Republic of Ghana, 1983 cited in Laryea and Akuoni, 2012). According to Brafu-Insaidoo (2008), the phase of attempted import liberalisation lasted from 1983 to 1986. During this period, a system of bonuses and surcharges was introduced which led to an increase in the actual exchange rate. Before 1983, the country had three tariff schedules which were high, at 35%, 60% and 100%. In 1983, these schedules were reduced to 10%, 20% and 25%, respectively (Ocran and Adjasi 2009). Over the same period, the number of restricted imports was reduced. The year 1986 in particular, was marked by the redefinition of import licence categories, the introduction of a new exchange rate system, reduction of the import tax schedule and reduction of sale taxes on imported goods by 10% (Brafu-Insaidoo, 2008; Harvey and Sedegah, 2011).

The period between 1987 and 1991 was marked by changes in Ghana's tariff structures. During this period, tariffs on luxury goods were reduced and replaced by super sales tax which ranged between 50% and 500% points (Brafu-Insaidoo, 2008). During the same period, import licencing was completely abolished. As a result, the cost of importing in most commodity groups went down by five to 10 percentage points, except for luxury goods. Import tax rates were reduced on raw materials and capital goods by five percentage points (Harvey and Sedegah, 2011; ECOWAS Commission, 2012; Brafu-Insaidoo, 2008; Ocran and Adjasi, 2009).

Between 1992 and 1999, Ghana reduced its preferential tariffs of 20% on imports from a few selected countries that had been granted ECOWAS status. The preferential treatment resulted in rates that Ghana charged on imports from ECOWAS member countries ranging from 8% to 20%, while rates on imports from non-member countries ranged between 10% and 25%. By this period, the simple average import tariff was 17%, and the highest duty rate levied on consumer goods was 25%. During this period, most imports from ECOWAS member countries attracted duty-free rates, including a range of unprocessed agricultural goods. Also, 10% duty was imposed on selected zero-rated and exempted goods regarded as non-essentials. This was used to stimulate government tax revenue (Laryea and Akuoni, 2012; Brafu-Insaidoo, 2008). At the same time, Ghana had a simple tariff structure where primary products, capital goods and some basic consumer goods were charged a zero percent rate, while raw materials, some basic consumer goods and intermediate goods were charged 10%. Lastly, a rate of 25% was being charged mostly on final consumer goods. During this period, Ghana became a founding member of the WTO and signed an agreement with the United States of America (Laryea and Akuoni, 2012; WTO, 2007).

The period 2000 to 2012 was marked by a number of structural adjustments on Ghana's import tariffs. By January 2000, the simple average tariff had decreased to 13%, while the high duty rate applied on consumer goods had decreased to 20%. However, in February 2000, tariffs increased to 14.7% and a special import tax of 20% was re-introduced on 7% of the tariff lines. As a result of this, tariffs applied mostly on consumer goods increased to 40%. Ghana's tariff structure, with rates of 5%, 10%, 20% and now 40% (with the special import tax), had 'built-in' tariff escalation within certain manufacturing groups, especially textiles, leather, chemicals, basic metals, food, beverages, and tobacco. Lastly, more uniform duties improved the tariff structure (WTO, 2001). During the same period, non-tariff barriers applied on imported motor vehicles older than ten years were removed WTO, 2001). In 2005, the country launched the Trade Sector Support Programme (TSSP). In terms of imports, this programme was aimed at establishing effective rates of protection methodology (USAID, 2006). This period was also marked by the establishment and full adoption of the ECOWAS Common External Tariff.

Between 1957 and 2012, Ghana became a member of several country groups. For example, it became a member of the WTO, ECOWAS and the Organisation of African Unity (OAU), which later became the African Union (AU). Within these groups, the country has signed bilateral agreements with individual countries. As a member of ECOWAS, Ghana signed

an Economic Partnership Agreement (EPA) with the EU. This agreement was initialised in December 2007 and signed in October 2014, and it is designed as a tool for development and regional integration. Table 3.2 below summarises the country's import policy reforms in chronological order.

Table 3.2: The chronology of Ghana's import policy reforms

Year	Policy reform
1972-1982	• Revision of the value of Ghana's currency by 26% • Variation of import duties and import taxes aimed at revenue generation • Decrease in real exchange rate • Replacement of quantitative restrictions with price instruments • Creation of a liberal trade regime • Establishment of ECOWAS
1983-1991	• Trade liberalisation under economic recovery and structural adjustment programme (ERP and SAP) • Reduction of tariff schedules from 35 %, 60% and 100% to 10%, 20% and 25%, respectively • Reduction of the share of imports subject to restrictive imports policies • Reduction of tariffs on luxury goods and replacement with super sales tax ranging from 50% to 500% points • Elimination of import licencing
1992-1999	• Reduction of preferential tariffs on imports from a few selected import sources • Reduction of simple average tariffs to 17% • The highest duty rate levied on consumer goods was 25% • Removal of tariffs on consumer goods to zero percent • Joined the WTO • Signing of agreement with USA
2000-2012	• Simple average tariffs decreased to 13% • Highest tariff rate applied on consumer goods reduced to 20% • Increase of tariffs to 14.7%

	• Re-introduction of 20% special import tax on 7% of the county's tariff lines • Tariffs applied on consumer goods increased to 40% • Removal of tariffs applied on imported motor vehicles that are older than ten years • Launch of the TSSP • Establishment and full adoption of the ECOWAS Common External Tariff • Establishment of EPA with EU
2014	• Signing of the EPA with EU

Source: USAID (2006), Brafu-Insaidoo (2008), Harvey and Sedegah (2011), ECOWAS Commission (2012), and Ocran and Adjasi (2009)

The section below presents trade agreements that Ghana has with its trade partners, followed by a discussion on the regulation of its imports.

3.2.2 Ghana's Trade Agreements

Since its independence, Ghana has signed a number of trade agreements with individual countries in different country groups both in Africa and outside Africa. As noted before, the most significant agreements that the country has signed include its membership in the WTO, the EPA with the EU, bilateral trade agreements with individual ECOWAS member countries, and bilateral agreements with other individual countries.

3.2.2.1 Ghana's membership in the WTO

Ghana joined the WTO in 1995. Following WTO standards, the country extends Most-favoured-nation (MFN) treatment to all its trade partners (WTO, 2014). The country has signed the fourth and fifth protocols to the General Agreement on Trade in Services (GATS) under the WTO. Between year 2007 and 2013, the country made nine notifications to the WTO under four agreements; the Agreement on Import Licensing, the Technical Barriers to Trade (TBT) Agreement and the Agreements on Antidumping and on Subsidies and Countervailing Measures (WTO, 2014).

3.2.2.2 Ghana-EU trade agreement

The trade agreement between Ghana and European Union member countries is called the Interim Economic Partnership Agreement (IEPA). This agreement was initialised in 2007 in terms of the Cotonou Agreement. It also allows Ghana to avoid any disruption of its exports to the EU after 1 January 2008, which is the end date of the trade provisions of the Cotonou Agreement. The agreement was signed in October 2014 (WTO, 2014; EU, 2014). From 1st October 2014, Ghana continued to benefit from this market access to the EU only on the basis of the ratification of the interim EPA, or the entry into force of the regional EPA (EU, 2014; WTO, 2014). Ghana is expected to have liberalised 81% of its imports from the EU over the 15-year period from 2008 to 2022. This applies mainly to goods that are not produced locally; goods such as agricultural inputs, equipment and machinery (EU, 2014). The county was also expected to have liberalised 44.1% of its imports from the EU by the period January 2015 to 2017. These items attract tariffs of between 5% and 10%. The liberalisation of all the highest tariff items (20%) is deferred until the two final years (2021 and 2022). Two-thirds (66.7%) of Ghana's imports were to be duty free within eight years from 2009 to 2016 (Actionaid, 2013).

3.2.2.3 Ghana-ECOWAS

The ECOWAS regional group was established in 1975. This group consists of 15 members; Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Sierra Leone, Senegal and Togo (ECOWAS, 2015). Its mandate is to promote economic integration of all fields of activity among the member countries. Since the establishment of the group, there has been a trade policy intended to encourage intra-regional commerce and trade. According to ECOWAS (2015), this policy is also meant to enhance the integration of the member states into the world economy. Trade liberalisation is the main feature across ECOWAS. In 1979, the ECOWAS trade liberalisation scheme was established in order to encourage intra-regional trade. According to Zagaris *et al.* (2013), ECOWAS aimed, among other things, at the gradual:

- Improvement of the standard of living among its members.
- Augment the economic stability and promote closer relations within the community

Ghana as one of the founding members has played a significant role towards the success of this initiative.

3.2.2.4 Ghana-United States

The trade agreement between Ghana and the United States was signed in 1999. This is governed by the Trade and Investment Framework Agreement (TIFA) which provides a strategic framework and principles that guide trade activities between the two countries. This partnership was created to improve the spirit of cooperation between the two countries (UStr, 1999). A summary of import related agreements that affect Ghana is presented in Table 3.3 below.

Table 3.3: Summary of imports related agreements that affect Ghana

Agreement	**Countries involved**	**Terms of the agreement**
ECOWAS Customs Union	Benin, Burkina Faso, Cape Verde, Ivory Coast, Gambia, Ghana, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo	A common external tariff which draws on the basic West African Economic and Monetary Union (UEMOA) Common External Tariff (CET) composed of four tariff bands or rates of customs duty, namely, Essential goods (0%), Goods of primary necessity, raw materials and specific inputs (5%), Intermediate goods (10%), Final Consumption goods (20%).
Trade Agreement	Ghana and the European Union	Ghana is expected to have liberalised 81% of its imports from the EU over a 15 year period (2008-2022). This applies mainly on goods that are not produced locally; goods such as agricultural inputs, equipment and machinery. Ghana was also expected to have liberalised 44.1% of its imports from the EU by between January 2015 and 2017. These items attract between five and 10% tariffs. Liberalisation of all the highest

		tariff items (20%) is deferred until the two final years (2021 and 2022). Two-thirds (66.7%) of Ghana's imports was to be duty free within eight years from 2009 to 2016.

Source: Author's own computation based on ECOWAS, 2015.WTO, 2015

Trade policies in Ghana are coordinated by the Ministry of Trade and Industry in terms of the Export and Import Act, 1995 (Act 503) and Export and Import (Amendment) Act, 2000. The country has put in place measures to control the amount, quality and type of imports that get into its borders. These include the Ghana-Product Conformity Assessment Programme (G-CAP), and the Import and Export Control Department (IECD) of the Food and Drugs Authority. The G-CAP is used to verify that imported products are in conformity with the requirements of applicable standards before exporting to a destination country (GSA, 2015). The IECD of the Food and Drugs Authority regulates the importation and exportation of food, drugs, cosmetics, household chemical substances, and medical devices, in accordance with the Public Health Act 851 of 2012 (FDAGHANA, 2014).

3.2.3 Ghana's tariffs

Trade policy developments in Ghana involved mostly tariff removal and adjustments. There are two types of tariffs that the country applies to its trade partners namely, MFN applied duties and preferential duties. The two types of duties are always equal or less than the maximum duties that are set by WTO tariffs. The MFN applied duties is a specific commitment made by individual WTO member countries and is the maximum MFN tariff level for a specific commodity. The MFN applied duties are duties that countries promise to impose on imports from members of the WTO who they do not have a preferential agreement with. On the other hand, preferential tariffs are tariffs that a country imposes on imports from trade partners that it has preferential trade agreements with. The preferential tariffs are usually less than the applied MFN duties. Ghana's import tariff profile on all HS 6 product groups is presented in Table 3.4 below.

Table 3.4: Ghana's total tariff schedule in 2014

Product groups	Final bound duties				MFN applied duties			Imports	
	AVG	Duty-free	Max	Binding	AVG	Duty-free	Max	Share	Duty-free
		in %		in %		in %		in %	in %
Animal products	97.7	0	99	100	19.1	4.5	20	1.9	2.5
Dairy products	75.4	0	99	100	20.0	0	20	0.6	0
Fruit, vegetables,	99	0	99	100	18.7	2.9	20	1.0	0.3
Coffee, tea	90.8	0	99	100	20.0	0	20	0.2	0
Cereals &	96	0	99	100	16.9	10.4	20	4.2	2.6
Oilseeds, fats &	96.5	0	99	98.6	14.5	0	20	1.1	0
Sugars and	99	0	99	100	11.2	0	20	0.9	0
Beverages &	99	0	99	100	19.8	0	20	1.1	0
Cotton	99	0	99	100	10.0	0	10	0.0	0
Other agricultural	98.5	0	99	100	15.2	8.8	20	0.4	58.2
Fish & fish	99	0	99	1.6	8.8	0	20	0.2	0
Minerals & metals	32.1	0	40	2.1	12.5	4.2	20	17.3	11.6
Petroleum	-	-	-	0	6.2	36.4	10	1.8	97.4
Chemicals	99	0	99	0.2	12.0	0.2	20	11.3	4.2
Wood, paper, etc.	40.7	0	50	5.5	16.7	8.5	20	7.9	76.8
Textiles	45	0	45	0.7	16.9	0.8	20	2.3	6.6
Clothing	-	-	-	0	20.0	0	20	0.4	0
Leather, footwear,	-	-	-	0	14.0	0.6	20	2.1	1.4
Non-electrical	30	0	30	1.7	2.8	76.2	20	15.6	74.3
Electrical	-	-	-	0	10.3	13.4	20	8.8	23.0
Transport	32.1	0	35	5.8	6.0	47.8	20	17.3	15.8

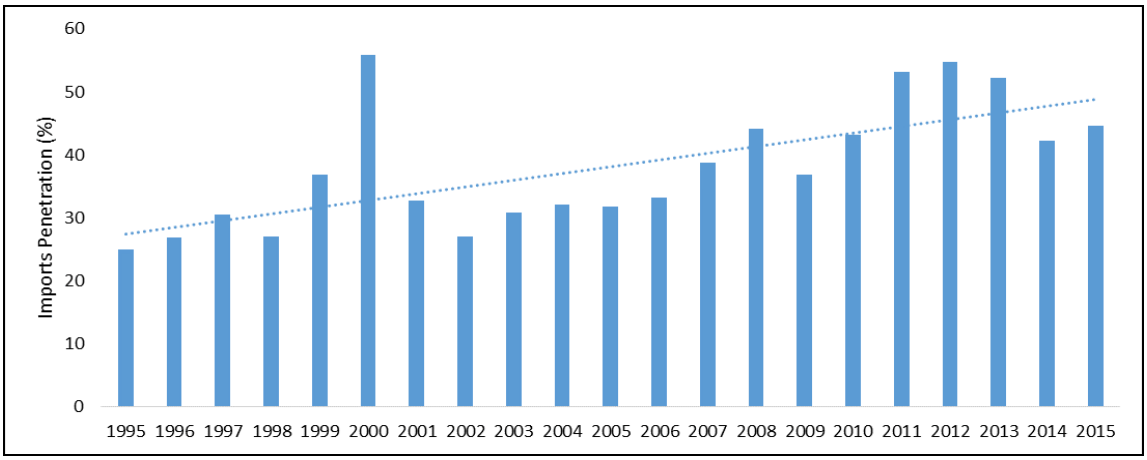
Source: WTO Tariff Profile (2014)

Ghana has been successful in binding its import tariffs and has made significant progress in opening its economy through tariff removal and reduction. In terms of final bound duties, by 2014 the average binding coverage was above 90% for most product lines, with the exception of minerals and metals, wood and paper, textile, non-electrical products, and transport products lines (see Table 3.4). Also, except for a few of the product groups listed in Table 3.4 the country had 100% tariff lines bound and a maximum of 99% *ad varolem* duties applied by 2014. In terms of the MFN applied duties, the maximum applied was 20% for all product lines. Notably, product lines with the highest share of imports that are free of MFN applied duties include non-electrical products, transport and petroleum with 76%, 47%, and 36% of their product lines, respectively. A larger share (more than half) of agricultural, petroleum, wood and paper import products were MFN duty-free by 2014 (see Table 3.4).

3.3 An overview of Ghana's imports

International trade has become one of the main pillars for the Ghanaian economy. The country had been participating in international trade activities even before its attainment of independence. However, its participation became more significant after 1957, especially in importing, as this period brought along changes in trade policy. Currently, Ghana's import penetration ratio is quite significant. This signifies the country's high reliance on foreign goods and services for domestic consumption. The trends in the country's import penetration ratio are presented in Figure 3.1.

Figure 3.1: Ghana's import penetration ratio (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

Through the period from 1995 to 2015 there has been a general increase in the share of Ghana's domestic consumption that is met by imports. Notably, in 2000, 2011, 2012 and 2013, imports accounted for more than 50% of Ghana's domestic consumption (see Figure 3.1).

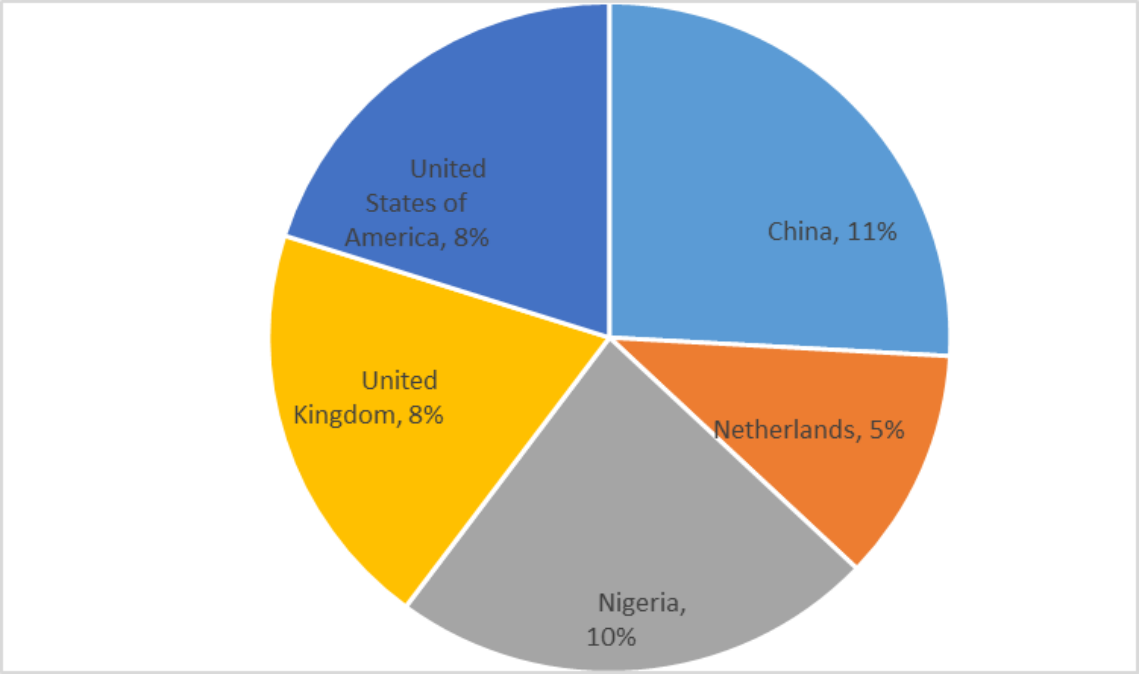
3.4 Ghana's major import sources in the world

Ghana trades with both developing and developed countries in the world. A larger percentage of its imports is from developed countries. Section 3.4.1 discusses trends in the country's major import sources.

3.4.1 Ghana's top five import sources in the world

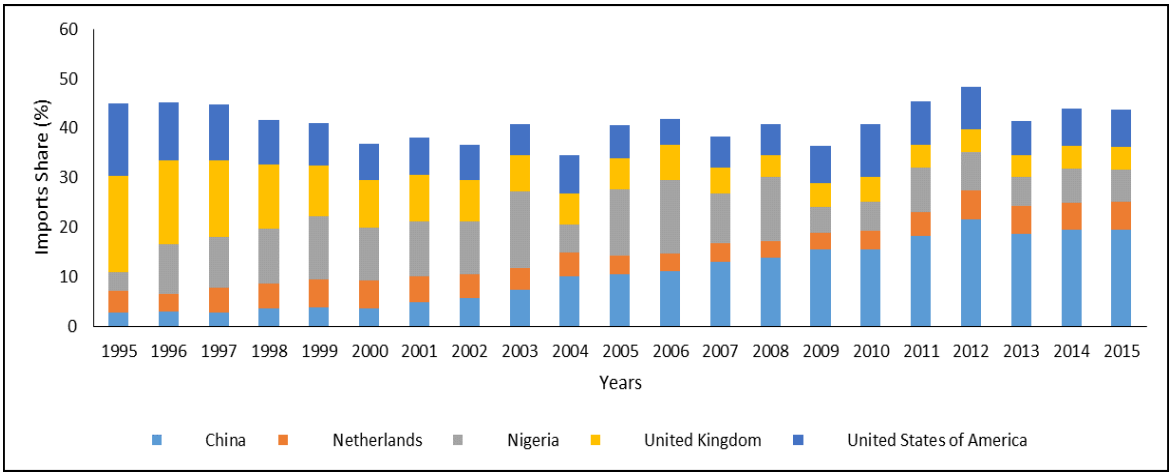
Ghana's top five import sources are Netherlands, United States, United Kingdom, Nigeria and China. Figures 3.2 and 3.3 below present the composition of imports by major import source for the period 1995 to 2014.

Figure 3.2: Annual average share of import products by major imports origin (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

Figure 3.3: Share of Ghana's imports by major imports source



Source: Author's own computation based on UNCTADSTAT database

China and Nigeria are the leading import sources for Ghana. These countries contribute 26% and 25% of Ghana's imports, respectively, followed by United States and United Kingdom, both of which account for 19%. The lowest contributor in the top five is Germany with 11% (see Figures 3.2 and 3.3).

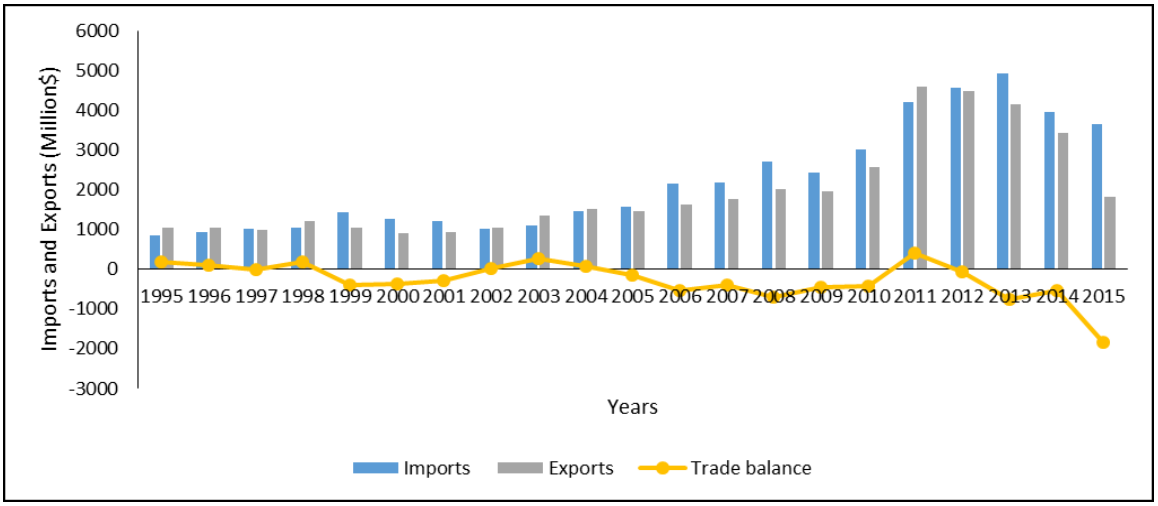
During the period 1995 to year 2000, China's contribution towards Ghana's imports was low compared to other major exporters to Ghana. However, this changed in 2001 when its

contribution started to rise significantly while the contribution from other major sources began declining slowly. The period from 2001 onwards was marked by a series of tariff adjustments which made importing cheaper for Ghana. The low proportion of Germany's exports to Ghana are due to changes in the trade relations between the two countries. These include the abrogation of the trade agreement between the two countries. Because of these changes, the share of Germany's imports has been decreasing over the years (see Figure 3.3).

3.4.2 Ghana's imports relations with the EU

As mentioned before, the EU is one of Ghana's major trade partners with a bilateral trade agreement which covers the relationship between Ghana and the EU's member countries. It is therefore necessary to analyse the nature of this partnership and the impact it has had on the Ghana's imports by observing trends of imports originating from the EU over the specified period. Figure 3.4 below presents Ghana's performance in terms of trade with the EU.

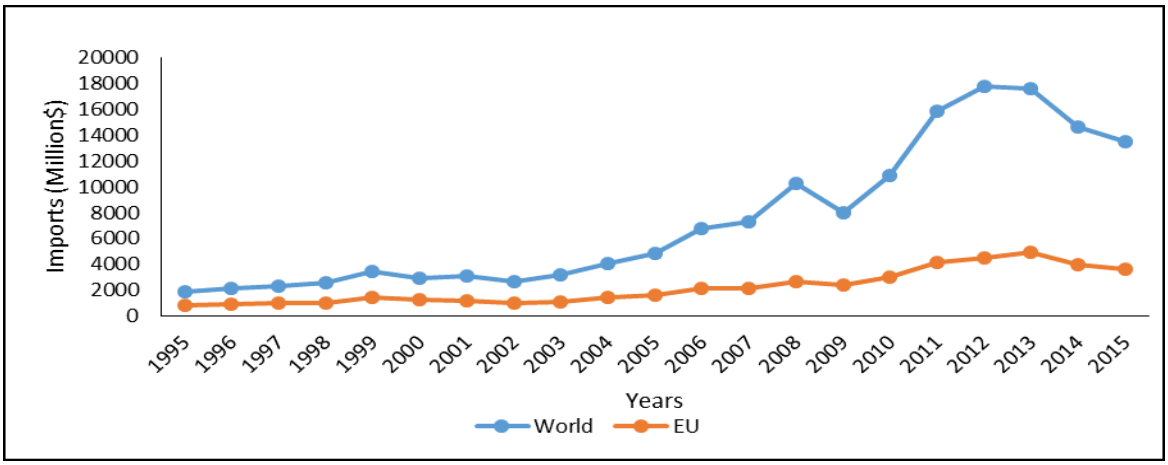
Figure 3.4: Ghana's trade balance with the EU (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

Between 1995 and 2007 the country was importing more from the EU than it exported there, thus was a net importer. However, this changed in 2008 as the country started recording a trade surplus. The surplus rose only up to 2011, after which it started declining (Figure 3.4). The period from 2008 to 2015 is the period during which the initiation and signing of the agreement between Ghana and the EU took place. Figure 3.5 below shows trends in Ghana's imports from the EU and from the world.

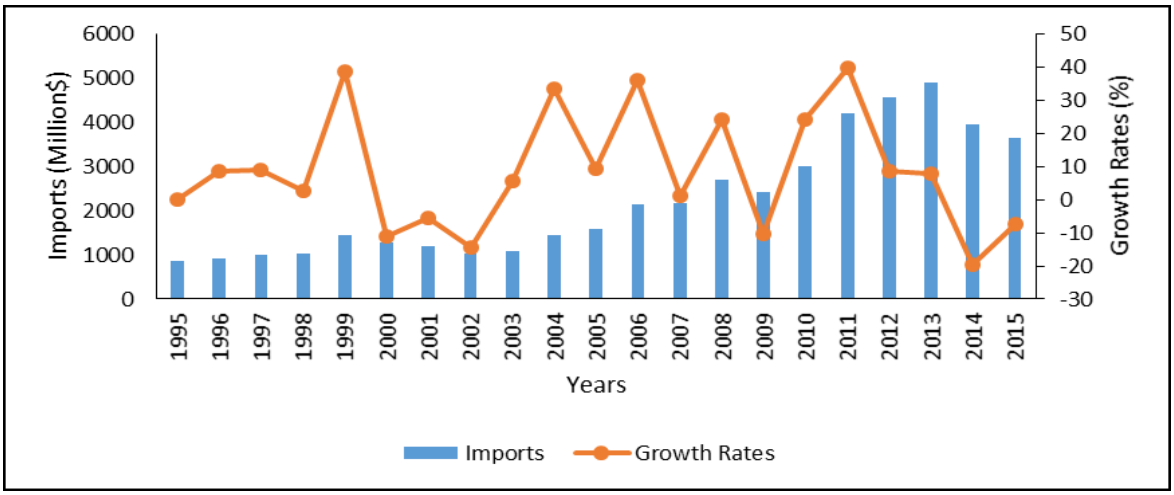
Figure 3.5: Trends on Ghana's aggregate merchandise imports from the EU and world (1995-2015)



Source: UNCTADSTAT database 2015

During the period under review, the EU's exports to Ghana followed a similar pattern to Ghana's imports from the world.

Figure 3.6: Trends on Ghana's total merchandise imports from the EU (1995-2015)



Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database

Ghana's imports from the EU have been fluctuating over the years. Between 1995 and 2011 imports increased at rates of between 0.1% and 45%, and in 2014 they started decreasing rapidly (see Figure 3.6).

Table 3.5: Ghana's top 10 merchandise imports from the EU by product (1995-2015)

Top 10 Products	Average imports in Millions of $	Average share
Other meat and edible meat offal	32577	2%
Worn clothing and other worn textile articles	40551	2%
Petroleum oils or bituminous minerals > 70% oil	218698	11%
Medicaments (incl. veterinary medicaments)	42018	2%
Insecticides and similar products, for retail sale	43686	2%
Civil engineering and contractors' plant and equipment	81649	4%
Other machinery for particular industries	37387	2%
Telecommunication equipment and parts	74259	4%
Motor vehicles for the transport of persons	112068	6%
Motor vehicles for transport of goods, special purpose	95982	5%

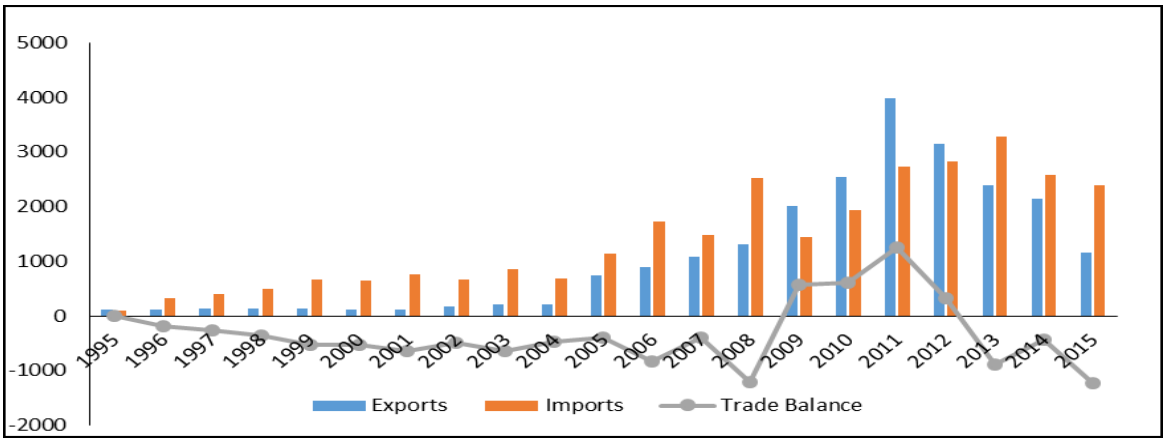
Source: Author's own computation based on UNCTADSTAT database

Table 3.5 above lists the top 10 products that Ghana imports from EU member countries. The list is dominated by manufactured products, with petroleum oils accounting for 11% of Ghana's total merchandise imports from the EU, followed by motor vehicles for the transport of persons (6%), and motor vehicle for transport of goods, special purpose (5%).

3.4.3 Ghana's import relations with Africa

Ghana is in Africa, and it trades with some countries on the continent. Figure 3.7 shows the trade and trade balance between Ghana and other African countries.

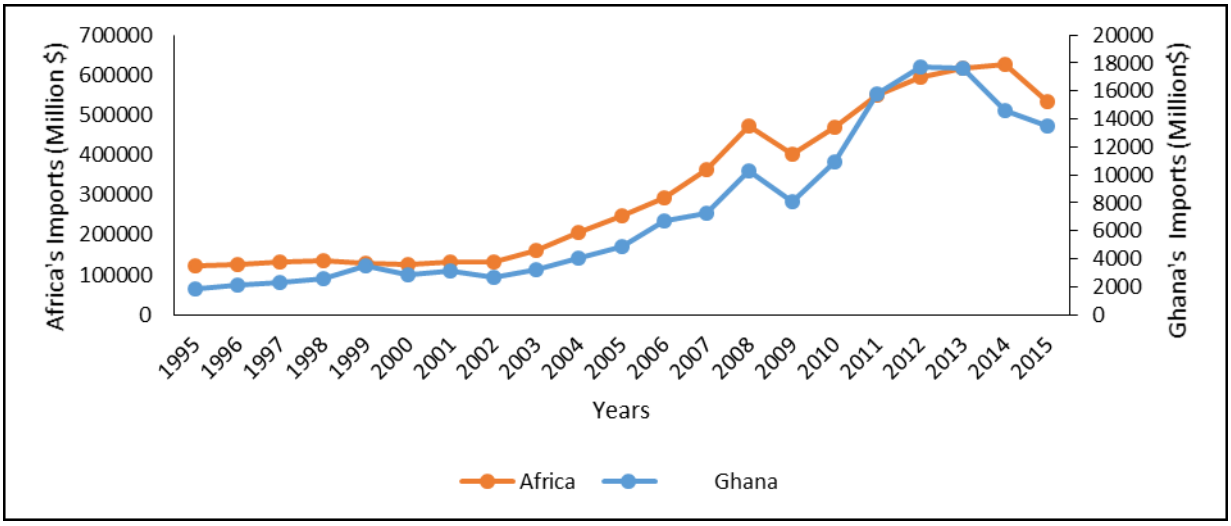
Figure 3.7: Ghana's merchandise trade and trade balance with the African continent (1995-2015)



Source: UNCTADSTAT data base

Over the period 1995 to 2015 Ghana imported from Africa more than it exported to other African countries; thus had a negative trade balance. However, it is also worth noting that the quantity of imports and exports moving between Ghana and other African countries has been increasing over the years. This is a sign of improving trade relations between Ghana and the African continent. Ghana has been contributing to Africa's total imports from the world and Figure 3.8 shows the relationship between Africa's and Ghana's imports from the rest of the world. Ghana's imports have followed a similar pattern as Africa's imports over the years from 1995 to 2011.

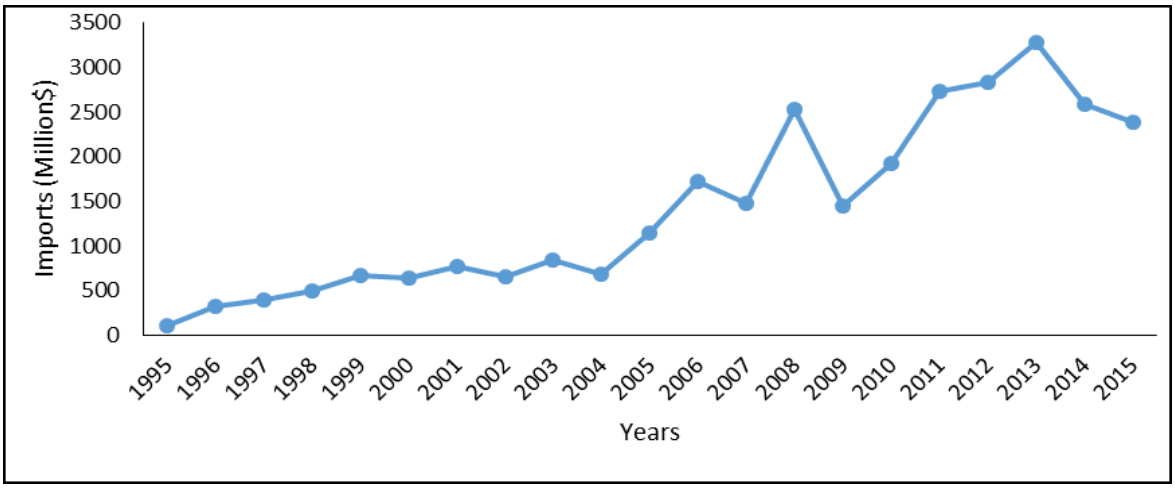
Figure 3.8: Africa's and Ghana's total imports from the world (1995-2015)



Source: UNCTADSTAT database

Figure 3.9 shows the trends in Ghana's imports from Africa.

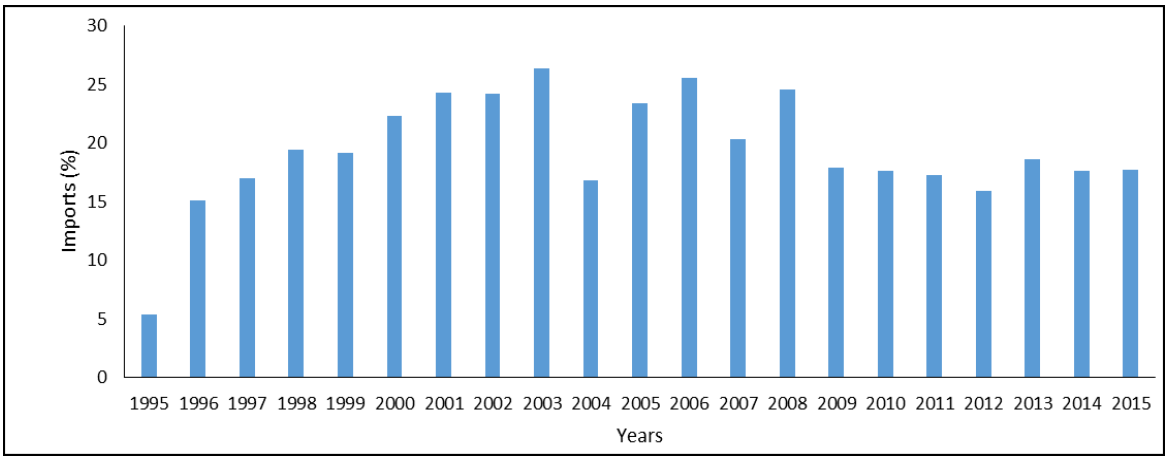
Figure 3.9: Ghana's import from Africa (1995-2015)



Source: UNCTADSTAT database and author's computation.

Ghana's imports from Africa have been increasing over the years. Notably so between 1995 and 2005. However, in 2007 and 2008 imports from Africa decreased and started increasing again in 2009 (see Figure 3.9). As noted before, the period between 2000 and 2012 was marked by a number of trade policy adjustments in Ghana, especially trade protection policies. Figure 3.10 shows trends in Ghana's share of imports from Africa against imports from the world.

Figure 3.10: Ghana's imports from African countries as a percentage of imports from the world (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

Over the period under review, Africa's contribution to Ghana's imports from the world fluctuated between 1.7% and 2.3%. This is insignificant and an indication that there is a need to establish strong trade relation amongst African countries.

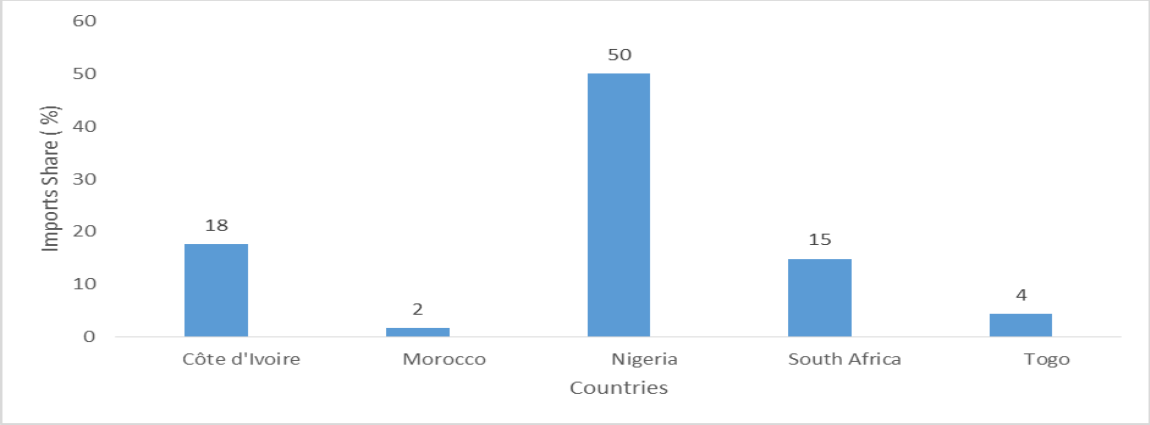
Table 3.6: Ghana's top 20 import products from Africa

Products	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
Milk, cream and milk products (excluding butter, cheese)	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	0.3%
Fish, fresh (live or dead), chilled or frozen	3%	1%	0%	0%	0%	0%	1%	2%	1%	2%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	1.3%
Vegetables	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	1%	0%	0%	0%	0.4%
Edible products and preparations, n.e.s.	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	1%	1%	0%	1%	1%	1%	1%	0.4%
Petroleum oils, oils from bitumin. materials, crude	28%	30%	24%	27%	32%	23%	19%	19%	29%	0%	30%	33%	28%	27%	13%	15%	24%	18%	11%	15%	11%	21.7%
Petroleum oils or bituminous minerals > 70 % oil	9%	2%	10%	3%	2%	3%	3%	0%	0%	0%	1%	1%	1%	1%	0%	0%	0%	2%	0%	1%	1%	2.0%
Residual petroleum products, n.e.s., related mater.	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	6%	0%	0%	1%	0%	1%	0%	0.6%
Perfumery, cosmetics or toilet prepar. (excluding soaps)	0%	3%	2%	2%	1%	1%	1%	3%	1%	4%	1%	2%	1%	5%	1%	1%	1%	1%	1%	1%	1%	1.5%
Soaps, cleansing and polishing preparations	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0.4%
Fertilizers (other than those of group 272)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	0%	0%	0%	0.3%
Lime, cement, fabrica. constr. mat. (excludingglass, clay)	0%	0%	0%	1%	1%	1%	1%	2%	2%	3%	2%	1%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1.2%
Aluminium	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0.5%
Structures & parts, n.e.s., of iron, steel, aluminium	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	1%	2%	1%	0%	0%	0%	0%	0%	0.4%
Civil engineering & contractors' plant & equipment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	0.4%
Other machinery for particular industries, n.e.s.	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0.3%
Motor vehic. for transport of goods, special purpo.	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	1%	1%	2%	1%	1%	1%	0.8%
Ships, boats & floating structures	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	9%	0%	1%	14%	8%	10%	2.1%
Footwear	0%	1%	1%	1%	0%	1%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	1%	0.5%
Articles, n.e.s., of plastics	0%	2%	1%	1%	1%	1%	1%	1%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0.6%

Source: UNCTADSTAT database

Petroleum oils accounts for the largest portion of Ghana's imports from Africa. Between 1995 and 2014 these products accounted an annual average of close to half (46.6%) of Ghana's total import products from Africa. Over the reviewed period, petroleum oils accounted for between 28% and 59% of the country's total import products from the continent (see Table 3.6).

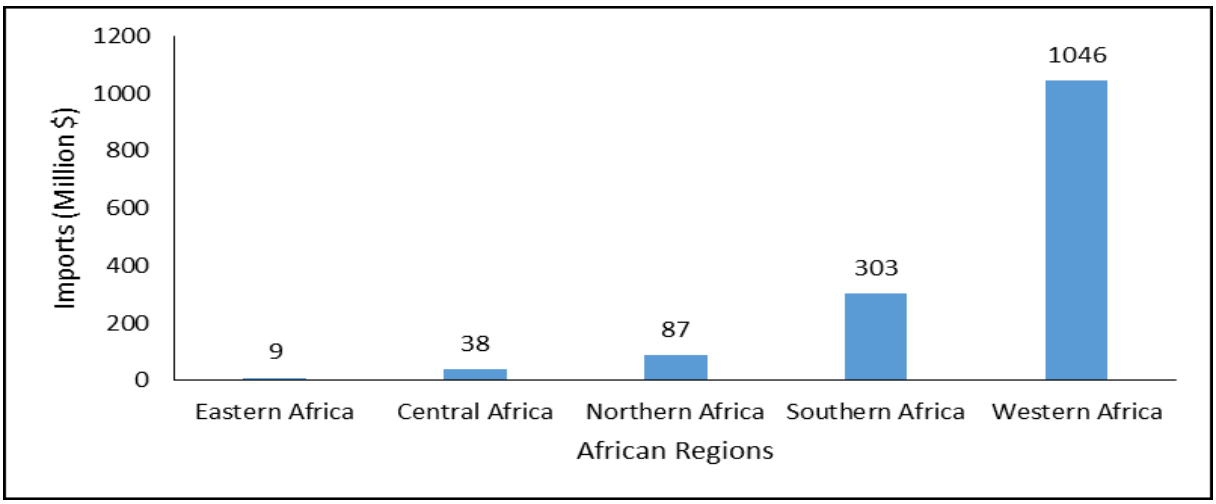
Figure 3.11: Top five African sources for Ghana's imports by country (1995-2015)



Source: UNCTADSTAT database

Between 1995 and 2014, on annual average, the country's main African sources of imports included Nigeria (50%), South Africa (15%), Cote d'Ivoire (18%), Togo (4%) and Morocco (2%) (see Figure 3.11). Nigeria was the largest African import source for Ghana over the reported period. This is not surprising given that Nigeria is the main African import source for most African developing countries. Also, Ghana has some form of specific trade relations with Nigeria.

Figure 3.12: Annual average total Ghana's imports by African region (1995-2015)



Source; UNCTADSTAT database

Figure 3.12 shows trends in Ghana's imports by African regional source over the period from 1995 to 2015. It is clear that Ghana does not trade much with most African regions. Most of the country's imports from Africa are from West African countries. A large amount

of its imports from West African countries come from Nigeria, which accounts for 50% of the country's imports from Africa.

3.4.4 Ghana's import relations with ECOWAS

As mentioned before, Ghana is part of ECOWAS. Table 3.7 presents annual average share of each ECOWAS member states' imports to total ECOWAS imports for the period 1995 to 2015.

Table 3.7: ECOWAS's imports by member state (1995-2015)

Member state	**Value of annual average imports in Millions of $**	**Annual average share**
Benin	5298	0.23%
Burkina Faso	20961	0.90%
Cape Verde	194	0.01%
Côte d'Ivoire	286571	12.30%
Gambia	422	0.02%
Ghana	1111	0.05%
Guinea	4714	0.20%
Guinea-Bissau	2127	0.09%
Liberia	1357	0.06%
Mali	11571	0.50%
Niger	760091	32.62%
Nigeria	8567	0.37%
Senegal	1828	0.08%
Sierra Leone	61016	2.62%
Togo	1164047	49.96%

Source: UNCTADSTAT data base and Author's own computation based on UNCTADSTAT database

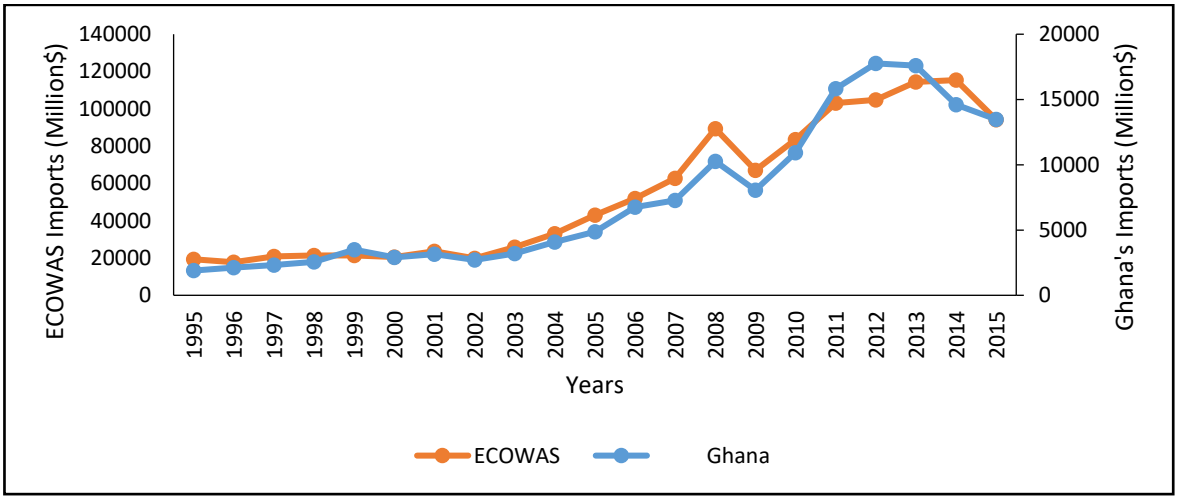
Over the period 1995 to 2014 Ghana was one of the least importing countries in the ECOWAS region relative to its counterparts (see Table 3.7). The country accounted for an annual average of 0.05%, surpassed only by The Gambia and Cape Verde, who imported less than Ghana, registering 0.02% and 0.01%, respectively. Within the ECOWAS, Ghana trades with some of the countries. Figure 3.13 shows trends in trade between Ghana and other ECOWAS member countries.

Figure 3.13: Ghana's trade balance with the ECOWAS region (1995-2015)

Source: UNCTADSTAT database

From 1995 to 2015 the country was a net importer with the ECOWAS member states, recording a deficit. Despite increasing exports, the trade gap (deficit) for Ghana widened over the years as imports were increasing faster than exports.

Figure 3.14: Ghana's merchandise imports from the ECOWAS (1995-2015)



Source: UNCTADSTAT database

Ghana's total imports from the world followed similar trends to the ECOWAS' total imports (see Figure 3.14). Table 3.8 presents a geographical breakdown of Ghana's imports from ECOWAS countries.

Table 3.8: Ghana's merchandise imports from the ECOWAS region by member state

Member countries	Ghana's imports products from ECOWAS in thousands of $	Percentage annual average share
Benin	5298	0.5%
Burkina Faso	20961	1.8%
Cape Verde	194	0.0%
Côte d'Ivoire	286571	24.6%
Gambia	422	0.0%
Guinea	1111	0.1%
Guinea-Bissau	4714	0.4%
Liberia	2127	0.2%
Mali	1357	0.1%
Niger	11571	1.0%
Nigeria	760091	65.3%
Senegal	8567	0.7%
Sierra Leone	1828	0.2%
Togo	61016	5.2%
ECOWAS	1164047	100%

Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database

A larger portion of Ghana's imports from ECOWAS are from Nigeria and Côte d'Ivoire. Over the period from 1995 to 2015, their merchandise exports to Ghana amounted to an annual average of US$760.1million and US$286.6 million, which is 65.3% and 24.6% of the ECOWAS' merchandise exports to Ghana, respectively. Table 3.9 presents Ghana's top 10 merchandise imports from the ECOWAS region.

Table 2.9: Ghana's top 10 merchandise imports from the ECOWAS region by product

Top 10 products	Value of imports in thousands of $	Percentage annual average distribution
Milk, cream and milk products (excluding butter, cheese)	15110.82	1.3%
Edible products and preparations	14941.63	1.3%
Petroleum oils, oils from bitumen, materials, crude	674258.8	57.9%
Petroleum oils or bituminous minerals > 70% oil	25641.25	2.2%
Residual petroleum products, n.e.s., related matter.	22957.34	2.0%
Electric current	19382.58	1.7%
Perfumery, cosmetics or toilet paper (excluding soaps)	44925.2	3.9%
Lime, cement, fabric, construction material (excluding glass, clay)	27086.78	2.3%
Ships, boats and floating structures	113633.6	9.8%
Footwear	14365.14	1.2%

Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database

The petroleum oils, oils from bitumen materials and crude, remain the main import products for Ghana and account for 57% of Ghana's imports. Ghana's imports from ECOWAS are dominated by manufactured goods.

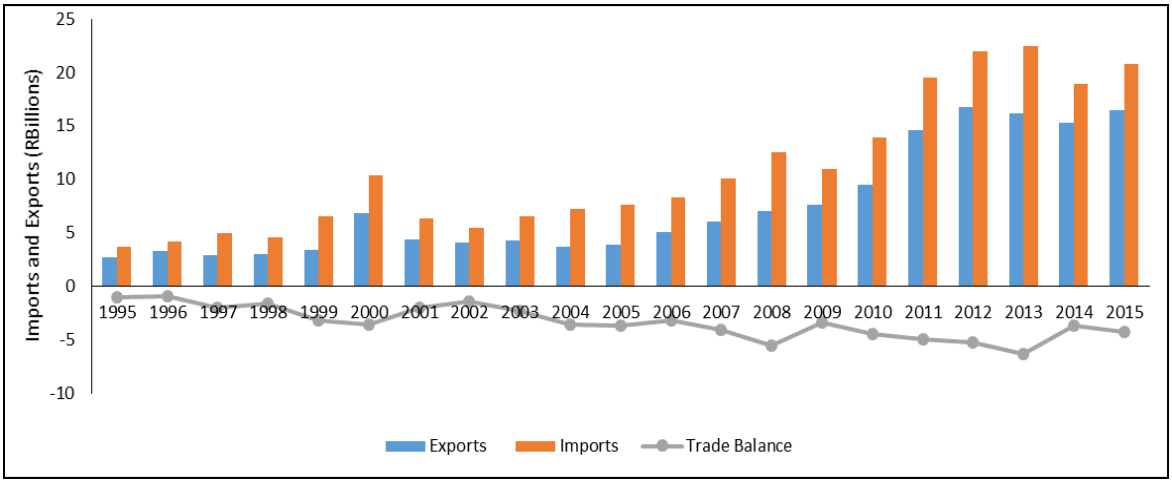
3.5 Ghana's import growth trends

As indicated before, the country imports and export goods and services. However, in response to trade policy reforms, among other factors, Ghana became a net importer after independence as its imports started increasing faster than exports. Section 3.5.1 discusses the structure and trends in imports at aggregate and disaggregate level, by product and source.

3.5.1 Structure and performance of Ghana's imports

Ghana is known for its high dependence on imports for domestic consumption since gaining independence in 1957. The country ranked 78th in the world in terms of imports in the years 2013 and 2014 (World Fact Book, 2014). Its dependence on imports is also signified by its increasing negative trade balances. Figure 3.15 depicts trends in trade and trade balance covering the period 1995 to 2015.

Figure 3.15: Trends in Ghana's trade and trade balance (1995-2015)



Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database

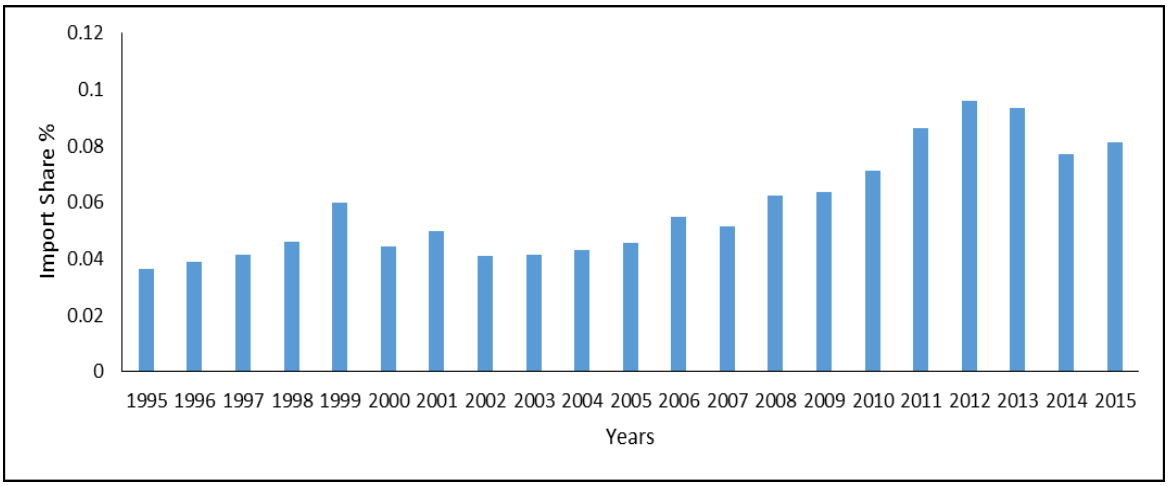
Ghana has generally been reporting a trade deficit. Between the years 1958 and 1990 the deficit or surplus was not significant as there existed a relative balance between the country's imports and exports (UNCTADSTAT, 2014). After 1990, the country started increasing the amount of products and services imported. As a result, the trade deficit started widening in the period 1991 to 2015. This can be attributed to the reduction on preferential tariffs which started in 1991. This encouraged importing for Ghana, as importing became cheaper. Figure 3.16 shows the trends in Ghana's total imports and import growth rate over the period 1995 to 2015.

Figure 3.16: Ghana's value of total imports and import growth rate (1995-2015)

Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database

As shown in Figures 3.15 and 3.16, the quantity of Ghana's total imports from the world increased gradually over the years, albeit at a fluctuating rate of between 5% and -20%. In some years, imports rose at a decreasing rate (Figure 3.16). Ghana contributes significantly to the total volume of imports in the world. Figure 3.17 shows the share of Ghana's imports to the world's imports.

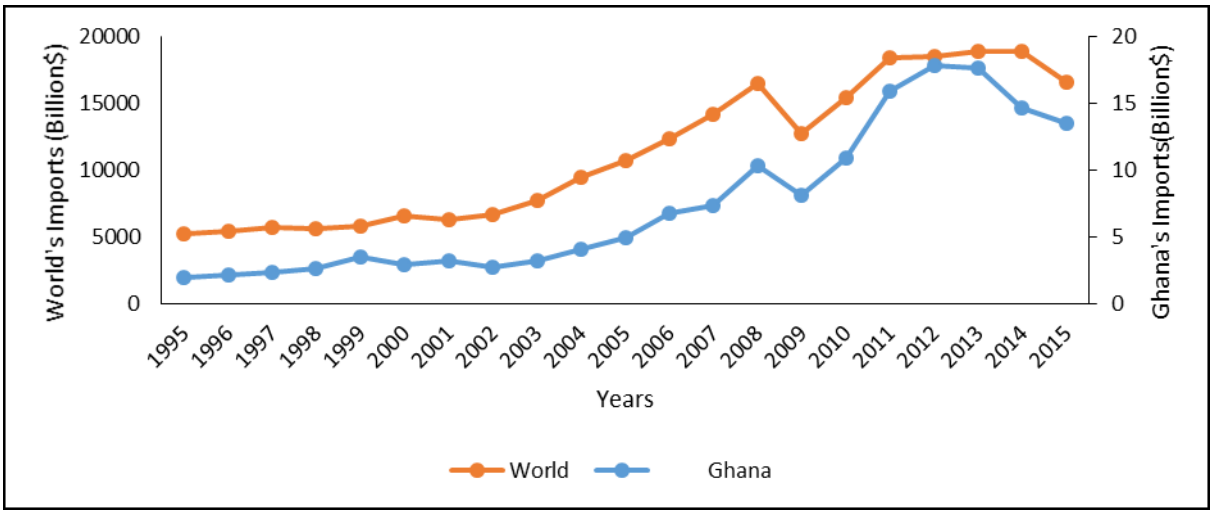
Figure 3.17: Ghana's value of imports as a percentage of the world's value of imports over the period (1995-2015)



Source: UNCTADSTAT database

There has been a general increase in the contribution of Ghana's imports towards the world's imports. For example, in 1995 the country only accounted for 0.05% of the world's imports and this increased to 0.7% in 2015. Also, over the reported period, Ghana's imports have followed the same trends observed in the world's imports (see Figure 3.18).

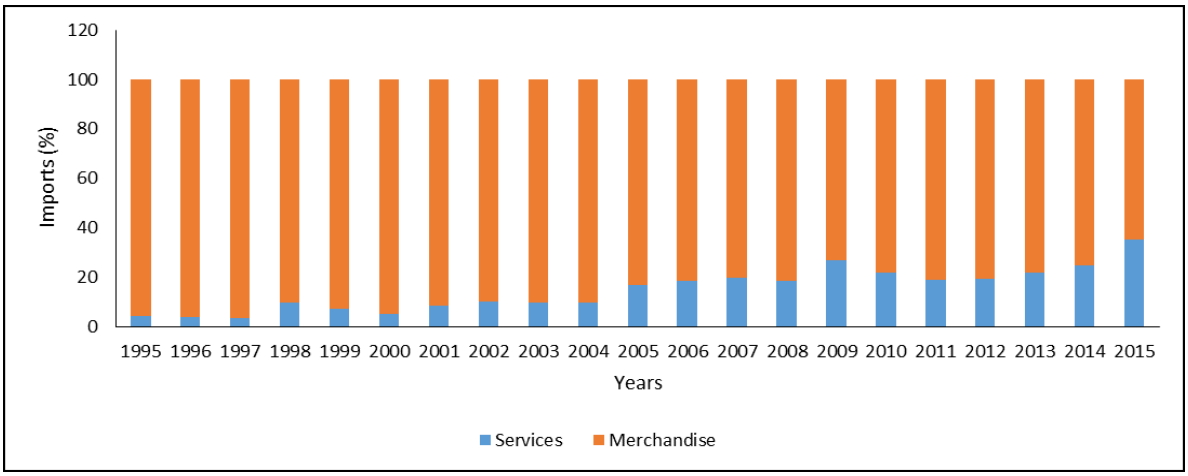
Figure 3.18: Trends in Ghana's value of imports against the world's value of total imports (1995-2015)



Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database

Ghana's imports are dominated by import goods rather than services. Figure 3.19 below presents the proportion of goods and services to the county's total imports.

Figure 3.19: Ghana's value of import products and services as a percentage of total trade (1995-2015)



Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database

Import products accounted for more than half of Ghana's imports while services accounted for less than 25% in the period under review. Table 10 below presents annual trends in individual import products as a share of Ghana's total merchandise imports from the world.

Over the reported period, on annual average, petroleum, petroleum products and related materials (6.6%), road vehicles (4.4%) and telecommunication and sound recording apparatus (3.5%) were the major contributors toward the country's total merchandise imports. Most of these products, except for petroleum, petroleum products and related materials, are categorised as manufactured goods (see Table 3.10).

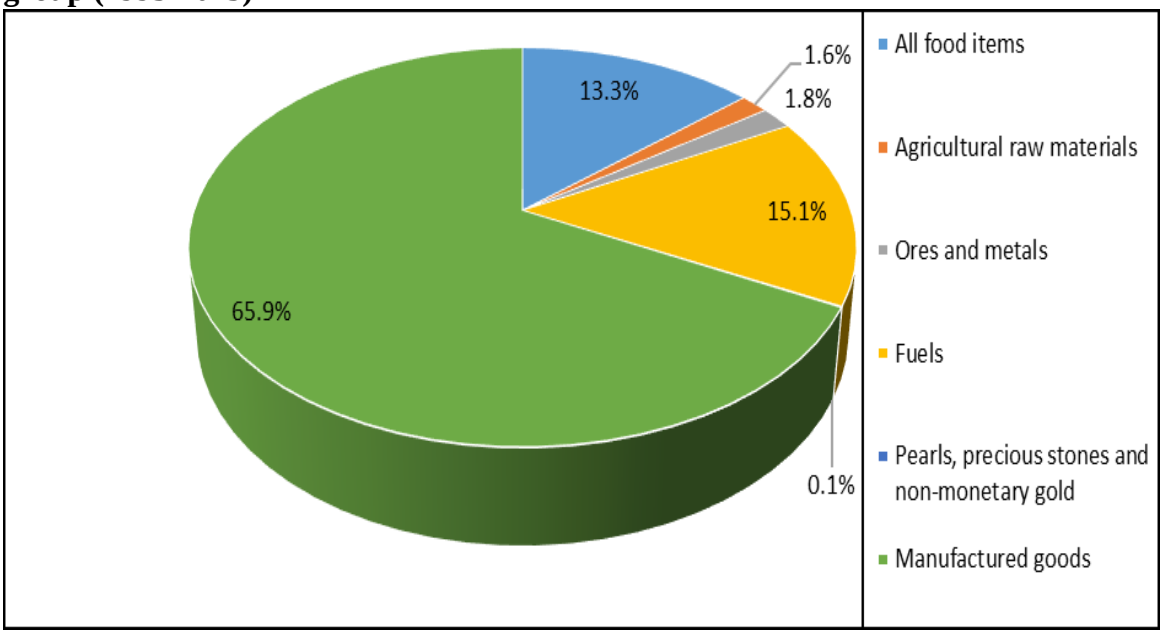
Table 3.10: Ghana's import products as a percentage of total products in 1995-2015

Years	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
Other meat and edible meat offal	0%	0%	0%	0%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%
Fish, fresh (live or dead), chilled or frozen	3%	1%	0%	1%	1%	2%	2%	3%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Wheat (including spelt) and meslin, unmilled	1%	1%	1%	1%	1%	1%	2%	2%	1%	2%	1%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%	1%
Rice	1%	1%	1%	1%	1%	2%	3%	3%	3%	4%	2%	2%	2%	2%	3%	2%	3%	2%	3%	2%	2%	2%
Sugar, molasses and honey	1%	1%	1%	2%	1%	1%	2%	2%	3%	3%	2%	2%	2%	1%	2%	2%	2%	1%	2%	1%	1%	2%
Worn clothing and other worn textile articles	1%	1%	1%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Petroleum oils, oils from bitumin. materials, crude	3%	9%	8%	11%	12%	10%	9%	9%	15%	0%	14%	17%	12%	13%	5%	5%	8%	6%	4%	5%	4%	8%
Petroleum oils or bituminous minerals > 70 % oil	2%	2%	11%	7%	5%	7%	8%	2%	1%	2%	1%	3%	3%	4%	3%	4%	4%	6%	6%	5%	4%	4%
Fixed vegetable fats & oils, crude, refined, fract.	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Medicaments (incl. veterinary medicaments)	1%	1%	1%	1%	2%	1%	1%	1%	2%	2%	1%	1%	2%	1%	2%	2%	1%	1%	1%	1%	1%	1%
Polymers of ethylene, in primary forms	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Insectides & similar products, for retail sale	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	2%	2%	2%	2%	1%	2%	2%	1%
Rubber tyres, tyre treads or flaps & inner tubes	2%	2%	1%	1%	1%	1%	1%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lime, cement, fabrica. constr. mat. (excludingglass, clay)	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Flat-rolled prod., iron, non-alloy steel, coated, clad	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Iron & steel bars, rods, angles, shapes & sections	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	2%	1%	1%	2%	1%	1%	1%	1%	1%
Tubes, pipes & hollow profiles, fittings, iron, steel	1%	1%	1%	0%	0%	0%	1%	0%	1%	0%	2%	0%	1%	1%	1%	1%	1%	2%	1%	1%	1%	1%
Manufactures of base metal, n.e.s.	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	1%	1%	1%	1%	1%	1%
Civil engineering & contractors' plant & equipment	5%	4%	4%	3%	3%	2%	1%	2%	2%	3%	2%	2%	2%	3%	2%	3%	3%	4%	3%	4%	4%	3%
Other machinery for particular industries, n.e.s.	3%	3%	2%	2%	2%	2%	1%	1%	1%	2%	2%	1%	1%	2%	1%	1%	2%	1%	2%	2%	1%	2%
Telecommunication equipment, n.e.s.; & parts, n.e.s.	2%	2%	1%	1%	2%	1%	1%	1%	1%	3%	3%	3%	2%	4%	4%	3%	3%	2%	2%	2%	2%	2%
Motor vehicles for the transport of persons	5%	3%	2%	3%	5%	4%	5%	6%	5%	5%	5%	5%	5%	4%	5%	4%	5%	5%	5%	5%	6%	5%
Motor vehic. for transport of goods, special purpo.	8%	5%	5%	5%	3%	3%	3%	3%	3%	4%	3%	3%	4%	3%	3%	3%	4%	4%	3%	4%	4%	4%
Ships, boats & floating structures	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	4%	0%	3%	5%	4%	4%	2%
Articles, n.e.s., of plastics	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%

Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database

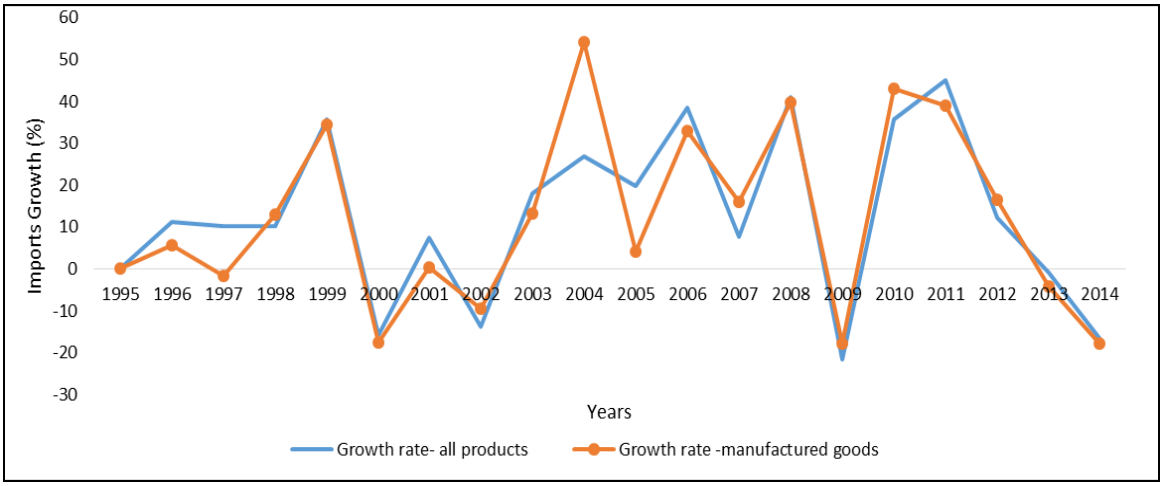
Since 1995, manufactured goods have always accounted for more than half of manufactured goods imported by the country. Figures 3.20 and 3.21 present the proportions of the major import product groups.

Figure 3.20: Average annual composition of Ghana's imports by major product group (1995-2015)



Source; UNCTADSTAT data base and Author's own computation based on UNCTADSTAT database

Figure 3.21: Growth rate on imports for all products and manufactured goods (1995-2014)

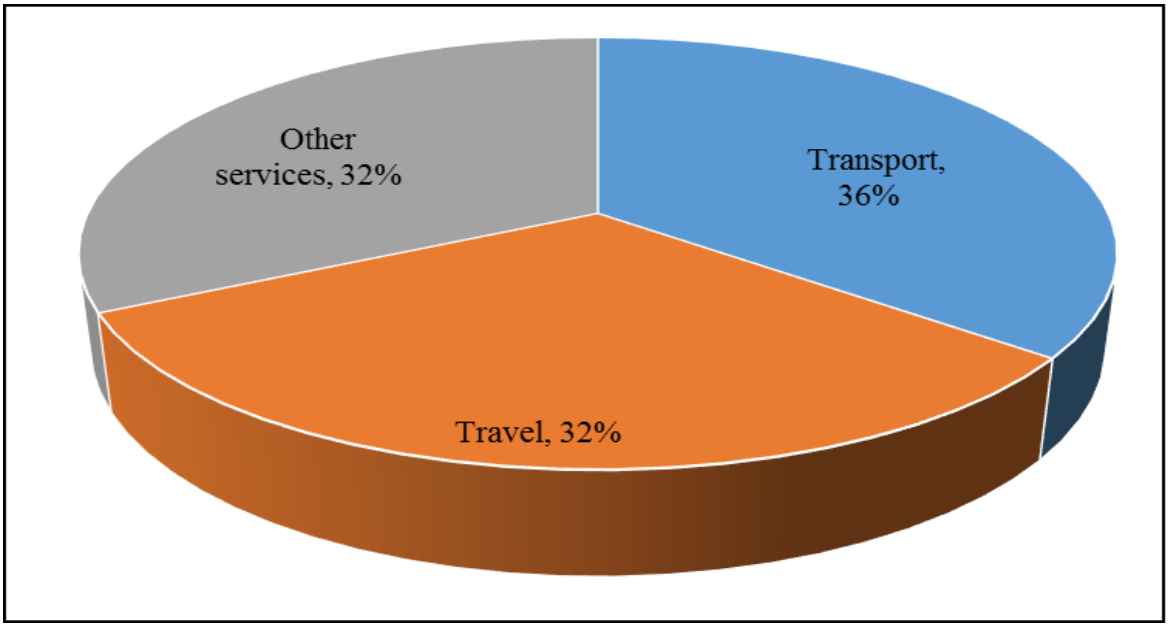


Source: Author's own computation based on UNCTADSTAT database

Ghana's merchandise imports are dominated by manufactured goods which accounted for an annual average of 65% over the reported period, followed by fuel (17%), and all food items (6%). The rate at which the manufactured goods component grew followed the trend in total import products growth (see Figure 3.20 and 3.21). This may imply that an adjustment in import demand for manufactured goods leads to a related adjustment in the demand for total merchandise imports.

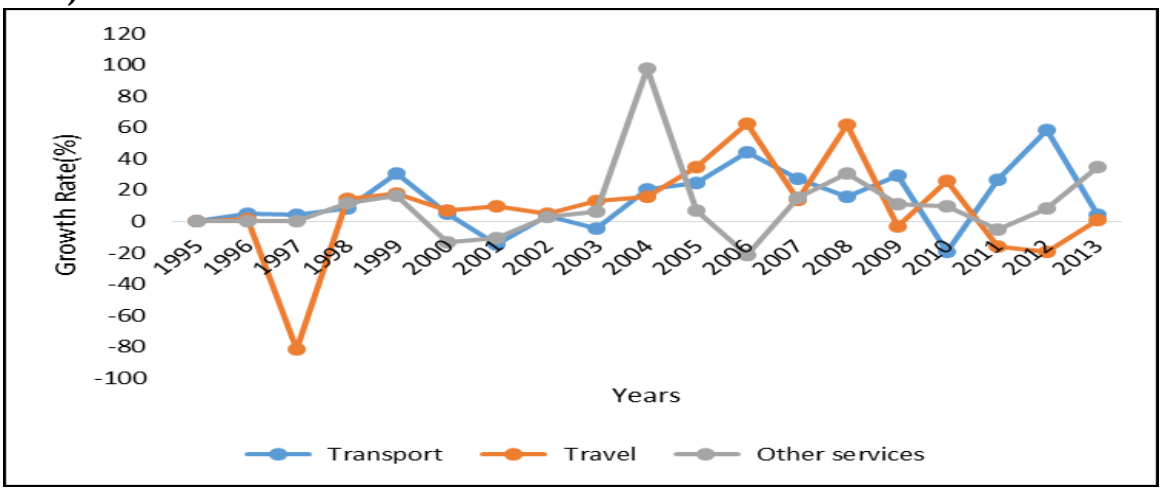
Figures 3.22 and 3.23 below present the annual average share and annual growth rate of Ghana's imports over the period 1995 to 2013.

Figure 3.22: Average annual share of imports to total services imports by service group (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

Figure 3.23: Annual growth rate of Ghana's value imports by service group (1995-2015)



Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database

In the reported period, transport services accounted for an average of 44% of the total service imports, followed by other services, and travel services which accounted for 15% of the total service imports. Even though the transport services contributed the largest share of Ghana's service imports, they grew slower than other services over the years (see Figure 3.23). Table 3.11 presents the top 15 merchandise imports for Ghana.

Table 3.11: Ghana's top 15 merchandise imports as a percentage of the total product imports from the world (annual average, 1995-2015)

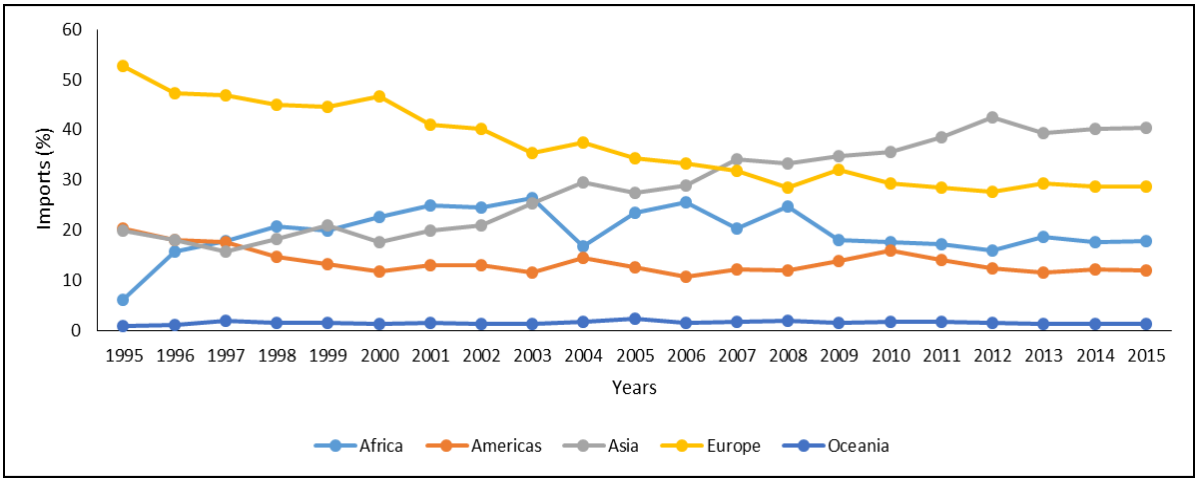
Top 14 Imports commodities	**Percentage of the total product imports (1995-2015)**
Rice	2%
Sugar, molasses and honey	2%
Petroleum oils, oils from bitumen, materials, crude	9%
Petroleum oils or bituminous minerals > 70% oil	4%
Medicaments (incl. veterinary medicaments)	1%
Insecticides and similar products, for retail sale	2%
Lime, cement, fabric. Construction material. (excluding glass, clay)	2%
Manufactures of base metal, n.e.s.	1%
Civil engineering and contractors' plant and equipment	3%

Other machinery for particular industries, n.e.s.	1%
Telecommunication equipment, n.e.s. and parts, n.e.s.	2%
Motor vehicles for the transport of persons	4%
Motor vehicles for transport of goods, special purpose.	3%
Ships, boats and floating structures	2%

Source: Author's own computation based on UNCTADSTAT database

Over the reported period, petroleum oils, oils from bitumen, materials, and crude, were the major merchandise imports, accounting for 9% of total merchandise imports. Figure 2.24 presents trends in Ghana's imports by continent.

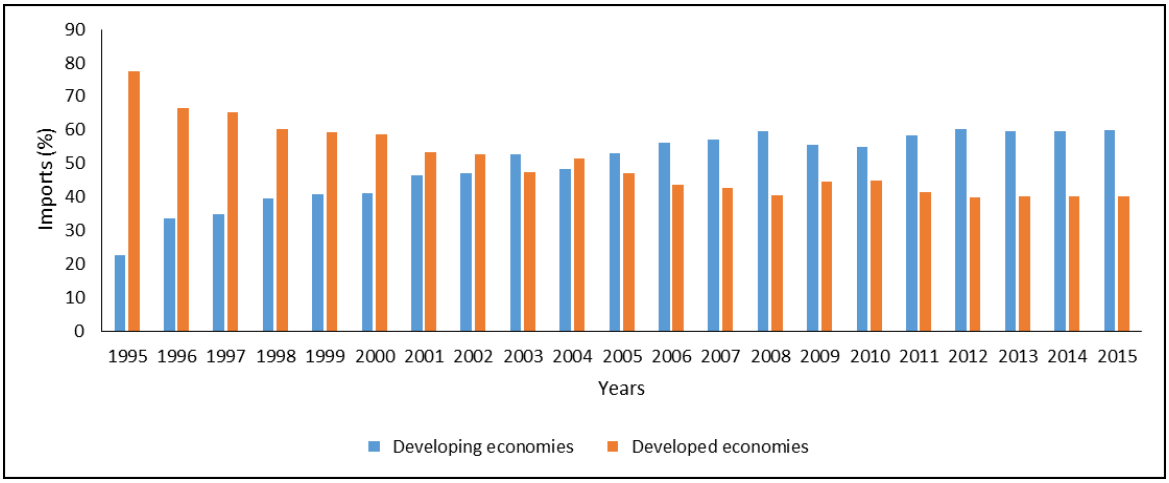
Figure 3.24: Ghana's imports by continent (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

A large percentage of Ghana's imports come from Asian, European and African countries (see Figure 3.24). Between 1995 and 2006, Europe was the largest imports origin for Ghana, with its share decreasing over the years from 47% in 1995 to 24% in 2015. In 2006, Europe was overtaken by Asia which accounted for the largest share between 2006 and 2015. Imports from countries on the Americas decreased over the years, from 18% in 1995, to 11% in 2015. The decline in imports from Europe can be attributed to the trade policy adjustments that took place between Ghana and Germany during the same period. Ghana trades with both developing and developed countries. The trends in Ghana's imports by country type are presented in Figure 3.25.

Figure 3.25: Ghana's imports by country group (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

During the period 1995 to 2002 the country was importing most of its import products from developed countries. However, after 2002 the imports from developing countries started increasing while imports from developed countries fell (see Figure 3.24).

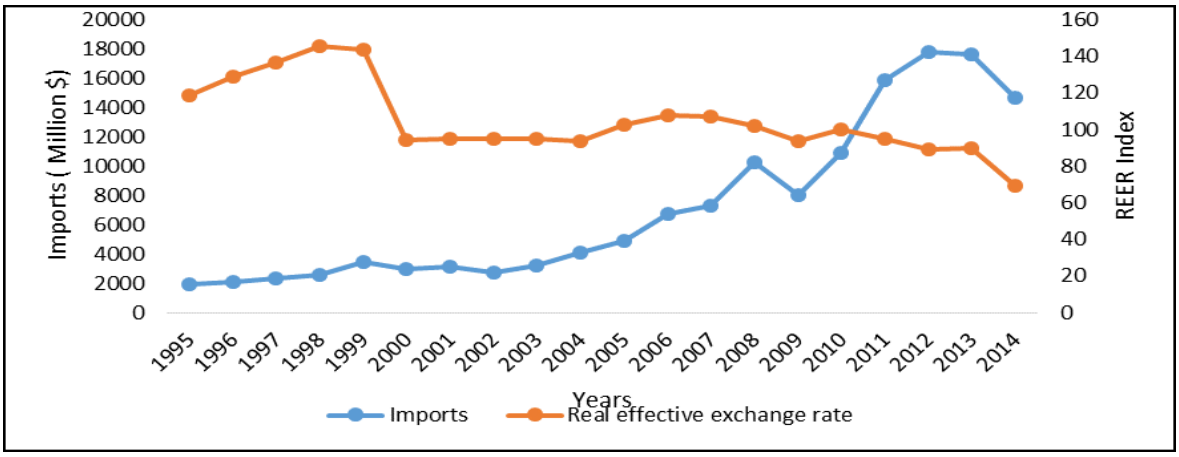
3.6 Factors affecting Ghana's import demand

As outlined in Section 2.7, Razafimahefa and Hamori (2005) found that real exchange rates, trade liberalisation, economic growth, foreign reserves and relative import price all affect import demand.

3.6.1 Ghana's real effective exchange rate

Movements in exchange rates lead to changes in import demand. Changes in the exchange rate are commonly due to exchange rate policies. As uncertainty in the exchange rate grows, importation decreases (Samini *et al.*, 2012). Several empirical studies have discovered a significant link between exchange rates and import demand. These include Choudhri and Hakura (2012) and Nicita (2013), among others. In theory, a decrease in the real effective exchange rate index leads to a decrease in imports demanded because importing becomes costly. The relationship between the two variables in the case of Ghana is illustrated in Figure 3.26 below.

Figure 3.26: Real effective exchange rate and imports for Ghana (1995-2014)



Source: UNCTADSTAT database

Between the years 1995 and 1997, the country experienced a sharp increase in its real effective exchange rate signifying a loss in the country's export competitiveness. Following this, imports rose as local goods became relatively more expensive compared to imports. However, this was short-lived, as the index decreased by 35% between 1999 and 2000, from 143.9 to 94.1 respectively. The country's real exchange rates index continued to decline by approximately 27% between 2001 and 2014.

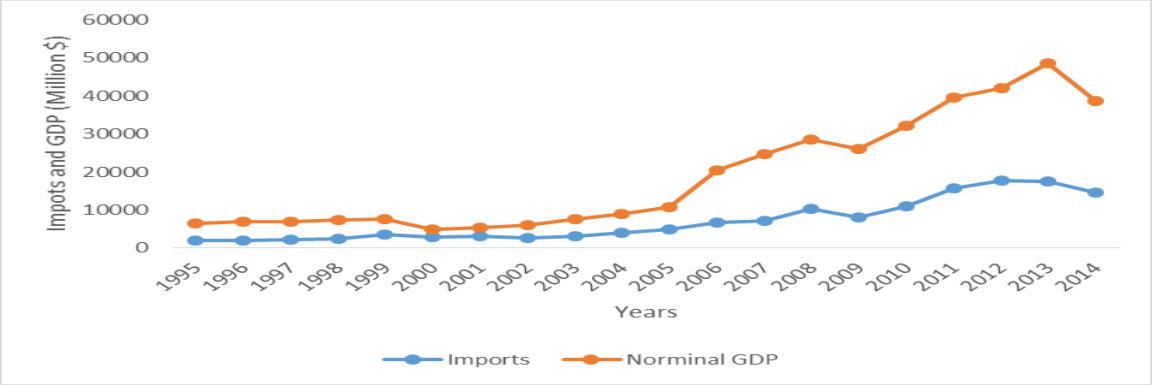
On the other side, imports, which had been increasing, started declining, falling from US$17 billion in 2012 to US$14billion in 2014. The continuous increase in imports between 1995 and 2012 regardless of the decline in real effective exchange rate contradicts theory, as the expectation is that imports decrease as importing becomes relatively more expensive over the years. However, the insensitivity of Ghana's imports is justified by the fact that the country's imports are dominated by capital goods which are often less elastic to foreign price changes.

3.6.2 Imports and economic growth in Ghana

The linkages between imports and economic growth have been discovered by many studies for different countries, among them, in the work by Mishra (2012) which emphasises a two-way relationship between economic growth and imports. Also, literature identifies economic growth as one of the major determinants of import demand (Aker, 2008). Over the period 2000-2014, imports accounted for an average of more than 51% of Ghana's economic growth (World Bank, 2015). Even though imports play a significant role towards growth, their performance still depends on the country's economic performance as a rise in real income leads to high consumption (Rivera-Batiz, 1985 cited in Gumede, 2000). Trends

in Ghana's imports against the county's economic growth over the period 1995-2015 are presented in Figure 3.27 below.

Figure 3.27: Trends in Ghana's import demand and economic growth (1995-2014)



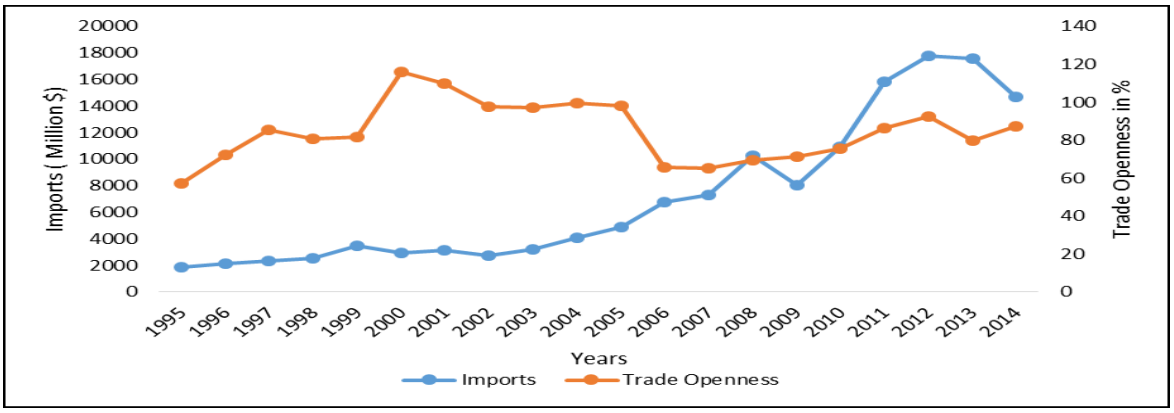
Source: UNCTADSTAT database

From the above, the trend in Ghana's import demand is shown to resemble the country's economic growth over the period under review.

3.6.3 Trade openness and imports in Ghana

The major trade related adjustments in Ghana were driven by the trade liberalisation process that the country embarked on since independence. As indicted before, these reforms focused on tariff reduction, which, theoretically, should encourage import demand. Figure 3.28 below shows trends in trade openness against import demand in Ghana.

Figure 3.28: Trade openness and imports in Ghana (1995-2014)



Source: Author's own computation based on UNCTADSTAT database

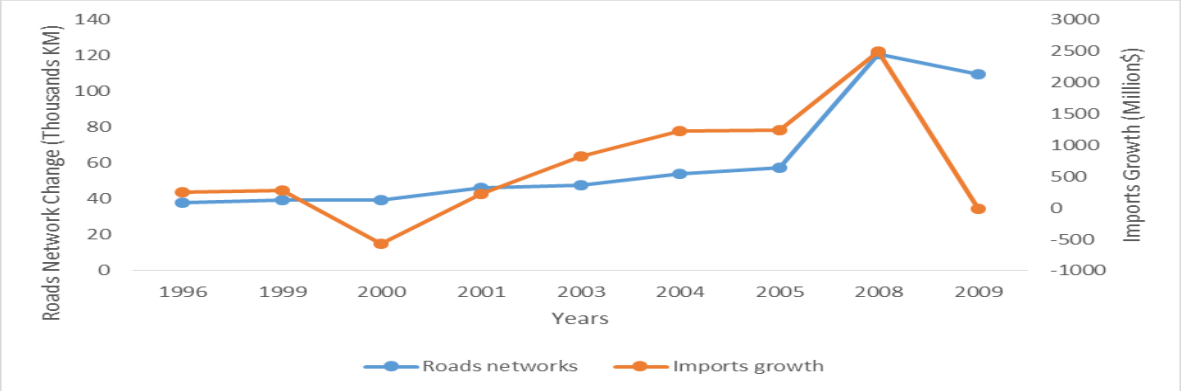
It is clear that import demand and trade openness did not move in sync over the period 1995 to 2014. During the first six years (1995-2000) trade openness in Ghana generally increased. Following this, import demand also increased slowly. However, between 2001 and 2006,

trade openness declined while imports continued to increase. The decline in trade openness can be attributed to the trade policy adjustment that took place in 2000, which involved increasing tariffs and re-introduction of special import tax. After 2006, trade openness started increasing again slowly. However, imports started going in the opposite direction during the period 2012 to 2014.

3.7 Challenges facing import growth in Ghana

In every country, imports are driven by a range of issues both internal and external. According to WTO (2013) investment in physical infrastructure is one of the issues that influence imports, especially in developing countries. Investment in physical infrastructure includes investment in areas such as roads within the country and those connecting to other countries, and in technology infrastructure. In the case of Ghana, lack of proper infrastructure integration is one of the major issues facing the country's ability to import. This has been pointed out as one of the major hindrances slowing down trade in most of the ECOWAS members (Owusu and Amoah, 2014). Improper infrastructure impacts on the flow of imports into the country and prevents the country from establishing relationships with new import sources. Figure 3.29 below shows trends in imports and infrastructure development.

Figure 3.29: Ghana's import growth against road infrastructure development (1996-2009)



Source: UNCTADSTAT database and World Bank database

The trends presented in Figure 3.29 above show linkages between infrastructure investment and imports. Over the period under review, the two variables followed similar patterns. There is a need for Ghana to invest in public infrastructure establishment and maintenance, as it plays a pivotal role in facilitating the flow of trade, in general, and imports, in particular, between Ghana and its trade partners.

3.8 Conclusion

The chapter provided a brief analysis of Ghana's policy developments since its ascension to democratic rule in 1957, focusing on policies affecting Ghana's import demand. Furthermore, it gave an analysis of the behaviour and structure of Ghana's imports over the period 1995 to 2015. The analysis indicates that, similar to South Africa, the country has undergone several policy adjustments over the years. Some of the policy changes were favourable for imports, and some were not. These policy changes were characterised mostly by removal of quantitative restrictions, removal of import tax, reduction of the number of tariff lines and the re-introduction of some of these restrictions. Over this period, the country successfully established a few bilateral trade agreements with African and non-African countries. It is clear that a larger percentage of Ghana's imports originate from developed countries. The largest import source for Ghana by continent is Europe, followed by Asia. Most of Ghana's imports from Africa originate in Nigeria. Ghana's imports are dominated by manufactured goods, which account for 65% of total imports from the world. Manufactured goods imports have been growing faster than total imports. Ghana's import demand appears to be sensitive to a number of factors, such as trade openness, economic growth and the exchange rate.

CHAPTER 4

THE DYNAMICS OF IMPORTS IN THE UNITED REPUBLIC OF TANZANIA

4.1 Introduction

This chapter provides an overview of imports in the United Republic of Tanzania (Tanzania). It surveys the structure, behaviour, potential determinants of the country's imports and its import policy developments. The chapter is divided into seven sections. Section 4.2 presents the country's main import policy reforms and import regulations. Section 4.3 provides a summary of import demand in Tanzania. Section 4.4 covers the country's relations with its trade partners, with a focus on imports. In Section 4.5, the discussion turns to the structure and patterns of import volumes in Tanzania over the period 1995 to 2014. Section provides an analysis of factors affecting the country's import demand. Lastly, the Section 4.7 concludes the chapter.

4.2 Import reforms in Tanzania

This section provides more insights on Tanzania's trade policy reforms and trade agreements. Sub-section 4.2.1 gives an overview of policy changes that have had an impact on the behaviour of imports in Tanzania since 1964. Sub-section 4.2.2 presents trade agreements that the country has with its trade partners. The section ends with a discussion on the country's tariff regime.

4.2.1 Import policy reforms in Tanzania after 1964

Tanzania dates formally from 1964 when it was formed out of the union of the mainland territory of Tanganyika, independent since 1961, and the coastal archipelago of Zanzibar. Since the late 1960's, Tanzania has embarked on a number of economic policy reforms, in an effort to stimulate economic growth and restore economic balances (Mkubwa *et al*. 2014). In the period 1961 to 1970, the country undertook a number of trade policy reforms which were meant to open up the country's economy and integrate it into the global world. This included abolition of imports restrictions, simplification of tariffs, and liberalisation of foreign exchange rates. This period was a liberal period reflecting the linkages inherited from the time before independence (Saruni, 2006). During this period, the country

introduced an import substitution strategy, to replace imports with domestically produced products (Kanaan, 2000).

During the period 1970-1980, the country continued to implement more trade policy reforms. These included, the adoption of the confinement policy in 1972, which was intended to ensure that all major economic policies, including trade policy, are put under the control and management of the public sector (Saruni, 2006). During the same period, the Government of Tanzania introduced a restrictive regulatory system for imports, which was implemented through administrative allocations of foreign exchange and an import licencing system (Kanaan, 2000). Most of these measures were intended to encourage domestic production and exports. However, most domestic industries were unable to produce efficiently enough to compete in the world market (Saruni, 2006). As a result of the inability of industries to produce enough for exports, the country was faced with a trade deficit.

The period 1980 to 1990 was marked by the introduction of the Structural Adjustment Programme (SAP), and the National Economic Survival and Economic Recovery Programmes (Mchallo, 1994). The three programmes comprised several macroeconomic policies and were intended to impact Tanzania's external relations, specifically imports. According to Mchallo (1994), these programmes were meant, among other things, to:

- Restructure future economic activities through better incentive systems.
- Revise priorities in government spending to achieve a more sustainable external balance and renewed growth.
- Encourage judicious use of available foreign exchange so as to enhance future earning capacity as well as save on imports.
- Increase the output of food and export crops through appropriate incentives for production, improvement of marketing structures and increasing the resources available to agriculture.
- Increase capacity utilisation in industry through the allocation of scarce foreign exchange to priority sectors and firms.
- Restore internal and external balances by pursuing prudent fiscal, monetary and trade policies.

Measures were also aimed at achieving the country's commitment to reduce trade deficits by encouraging exports and replacing imports with locally produced goods and services.

The introduction and implementation of the economic recovery programme helped extend the trade liberalisation initiative to include the removal of imports restrictions and price deregulation (Saruni, 2006).

Over the two decades 1991 to 2010, Tanzania continued to implement the programmes mentioned above. The country became a member of COMESA in 1993. Following this, Tanzania withdrew its membership from COMESA in 2000 due to the proposal by the group (COMESA) to reduce customs tariffs for member states by 90% (United Republic of Tanzania Affairs, 1999). Tanzania is a founder member of SADC which was established in 1992 in terms of the SADC Treaty and implemented in 2000. In 1995, Tanzania became a member of the WTO, before this, the country was a contracting party to the General Agreement on Tariffs and Trade (GATT). Being a member of WTO, Tanzania is bound by all WTO Multilateral Agreements and has to comply with the WTO agreements, as well as take advantage of opportunities arising from these agreements and trade negotiations (WTO, 2012). This includes granting least most favoured-nation (MFN) treatment to its trading partners. In this period, all tariffs were *ad varolem* and were bound at a rate of 120% on goods in 755 tariff lines, including all agricultural goods and some manufactured products (Walkenhorst, 2009).

Tanzania is one of the countries that signed the treaty for the establishment of the East Africa Community (EAC) in 1999, which was implemented in 2000. The year 2002 marked the removal of import duty exemption on imports by central and local government. Following this, the country introduced four duty bands for the simple tariff structure ranging from 0% to 25% in 2004 (Walkenhorst, 2009). During this period, import duties were removed on capital goods and unprocessed materials, while tariffs of 10%, 15%, and 25%, respectively, were being charged on semi-processed inputs, fully processed inputs, and final consumer goods. Out of 5324 tariffs lines, 67% were non-zero, with 39% being subject to the highest duty rate of 25% (Walkenhorst, 2009). In terms of the simple MFN-tariff average in all tariff lines, the country applied a rate of 13.5% and the import-weighted average amounted to 8.8%. In the same period, the country participated in the signing of the EAC Customs Union. This resulted in the complete removal of tariffs on goods imported by Tanzania from Uganda, and a gradual phasing out of tariffs on Category A and B goods from Kenya to Tanzania. This gradual decline on tariffs was to be implemented over a period of five years as follows; 10% in 2005, 8% in 2006, 6% in 2007, 4% in 2008, and 2% in 2009 (WTO, 2006). The country stopped applying suspended duties to imports of goods in 128 tariff lines

in 2004 (Walkenhorst, 2009). In 2005, the country was part of the EAC member countries that adopted the common external tariff (CET), which led to a reduction of its applied MFN tariffs from an average rate of 13.5% at the end of 2004, to 12.9% in 2005 (WTO, 2006; Walkenhorst, 2009). The CET was structured along three bands, which included a rate of 0% charged on raw materials, capital goods, agricultural inputs, certain medicines and certain medical equipment, 10% on intermediate goods and other essential industrial inputs and 25% on finished goods (Ministry of Finance (MOF), 2014). According to MOF (2014), although Tanzania had bound other duties and charges on the products covered by its tariff binding commitments at zero, by 2006, a US$10 customs processing fee, and a destination inspection fee of 1.2% on the free on board value, was applied on certain imports (WTO, 2006). During the same period, a VAT at a standard rate of 20%, and excise duties were being applied on imports. By 2006, Tanzania still had import prohibitions on products such as narcotic drugs, tear gas substances, and subversive/pornographic materials or literature. During this period, *ad valorem* rates of 7% on mobile phone services, 10% on saloon cars, station wagons and four-wheel-drive vehicles with engine capacity exceeding 2000 cubic centimetres, 120% on plastic shopping bags, and 30% on mostly 'luxury goods' were being charged (WTO, 2006). In 2008, Tanzania as a member of the SADC launched Free Trade Area (FTA) agreement (Swaziland Revenue Authority, 2013).

Between 2011 and 2016, the country continued to reform its trade policies and establish more trade relations. According to KPMG (2014), by 2014 imported goods were subject to customs duty, except for some raw materials and capital goods that qualified for a zero percent rate. For intermediary and finished goods, customs duty ranged between 0% - 25%, depending on their nature. As a member of the EAC, the country was part of the finalisation of the EAC-EU EPA in 2014. Among other things, the agreement covers trade relations between member countries for the EAC and the EU (European Commission, 2014). Table 1 provides a summary of the country's import related policies discussed above in chronological order.

Table 4.1: The chronology of Tanzania's import policy reforms

Year	Policy reform
1970-1979	• Adoption of the confinement policy • Introduction of a restrictive regulatory system for imports
1980-1989	• Introduction of the National Economic Survival Programme • Introduction of the Economic Recovery Programme • Introduction of the Structural Adjustment Programme
1990-1999	• Joined COMESA • Became a member of SADC • Signed SADC Trade Protocol • Joined WTO • Signed the treaty for the establishment of the EAC • Bound tariff on goods in 755 tariff lines at a rate of 120%
2000- 2010	• Withdrew membership from COMESA • Implementation of the SADC Trade Protocol • Simple MFN-tariff in all tariff lines at 13.5% • Import weighted average tariff amounted to 8.8% • Establishment of the EAC • Removal of import duty exemption on imports by central and local government • Introduction of four duty bands for the simple tariff structure ranging from 0% to 25% • Tariffs of 10%, 15%, and 25% charged on semi-processed inputs, fully processed inputs, and final consumer goods, respectively. • 25% being charged on some tariff lines • Signing of the EAC Customs Union • Abolition of suspended duties on 128 tariff lines • Reduction of applied MFN tariffs from an average rate of 13.5% to 12.9% • Introduction of a US$10 customs processing fee and destination inspection fee of 1.2% on the free on-board value on certain imports

	• A VAT at a standard rate of 20%, and excise duties applied on imports • Import prohibitions on products such as narcotic drugs, tear gas substances, and subversive/pornographic materials or literature • An *ad valorem* rate of 7%, 10%, 120% and 30% being charged respectively, on mobile phone services, saloon cars, station wagons and four-wheel-drive vehicles with engine capacity exceeding 2000 cubic centimetres, plastic shopping bags, and mostly 'luxury goods'. • Launch of the SADC FTA agreement
2010-2016	• Intermediary and finished goods subject to a customs duty ranging between 0%-25% • Finalisation of the EAC-EU EPA

Source: MOF (2004), WTO (2006, 2016), Mkubwa et al. (2014), South African Institute of International Affairs (2015), European Commission (2015), Kanaan (2000), Saruni (2006), Tralac (2010).

4.2.2 Tanzania's regional trade agreements

Tanzania has established a number of unilateral and bilateral agreements, at regional level, and with individual countries in Africa and beyond. Most significantly, this includes, *inter alia*, agreements with the WTO, EAC, SADC and with individual countries.

4.2.2.1 Tanzania-WTO

The country has been a contracting party to GATT since the1970's. It became a member of the WTO in 1995 and has since then been operating under WTO rules in terms of trade. As a member of the WTO, Tanzania grants at least MFN treatment to all its WTO trading partners.

4.2.2.2 Tanzania-EAC

Tanzania is a founder member of the EAC which was established in 1999 and came into effect in 2000. As a member of the EAC, the country benefits from the Tripartite Free Trade agreement between COMESA, EAC and SADC, and the economic partnership agreement between the EAC and the EU. Section 2.2 above outlines the objectives of the Tripartite Free Trade agreement. The EAC-EU EPA was finalised in 2014. It is a reciprocal agreement

between the EAC and the EU which allows for free movement of goods between the two parties. The main import-related features of this agreement include the following:

- Partial and gradual opening of the EAC market to imports from the EU, taking full account of the differences in levels of development between the EAC and the EU;
- Ban on unjustified or discriminatory restrictions on imports and exports, which contributes to the EAC's efforts to eradicate non-tariff barriers (NTBs) in intra-EAC trade;
- Trade defence provisions including safeguards allowing each side to reintroduce duties if imports from the other side disturb or threaten to disturb its economy, as well as special safeguard conditions to protect EAC infant industry;
- Rules of origin, defining which products are eligible for trade preferences under the EPA, fully take into account EAC specificities and the needs of its sectors and industries;
- Customs-related provisions aiming to facilitate trade between EAC countries and the EU, to promote better customs legislation and procedures, and to provide support to the EAC's customs administrations (European Commission, 2015).

4.2.2.3 Tanzania-SADC

Tanzania was one of the countries that signed the SADC Declaration and Treaty which transformed SADCC to SADC in 1992. The country's trade relations with other SADC members is governed by the SADC Free Trade Agreement which was established in 2008 under the SADC Trade Protocol signed in 1996 and 2000 respectively (SADC, 2012).

Table 4.2 provides a summary of imports related agreements that affect Tanzania.

Table 4.2: Summary of imports-related agreements that affect Tanzania

Agreement	Countries involved	Terms of the agreement
EAC Customs Union	Burundi, Kenya, Rwanda, Tanzania and Uganda	• Immediate removal of import duties on goods from Uganda to Tanzania • Immediate and gradual removal of import duties on goods from Kenya to Tanzania as specified in the agreement • A three-band common external tariff with a minimum rate of 0%, a middle rate of 10% and a maximum rate of 25% in respect of all products imported into the EAC.
SADC Free trade agreement	13 SADC Member States (South Africa, Swaziland, United Republic of Tanzania, Zambia, Botswana, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, and Zimbabwe, Seychelles)	• 85% duty-free trade which was to be achieved by 2008. 15% of trade was to be liberalised from 2009 to 2012 when SADC region was to have achieved the status of a complete FTA with almost all tariff lines traded duty free.
EAC-EU EPA	EU and EAC member countries.	• EAC to liberalise 82.6% of the imports from the EU, over 25 years. This includes 65% that was already duty free, 15% that would be liberalised within 15 years and 2.6% within 25 years from the moment the EPA entered into force.

COMESA-EAC-SADC Tripartite Free Trade agreement	COMESA, EAC and SADC Member States	Tanzania was to: • Not impose new import duties or charges of equivalent effect except as provided for under the agreement. • Progressively eliminate import duties in accordance with this agreement. • Accord to fellow member states Most-favoured-nation treatment • Eliminate all existing Non-Tariff-Barriers to trade with fellow member states and not impose any new ones in line with this agreement • Not impose quantitative restrictions on imports in trade with other Tripartite Member/Partner States except as otherwise provided in this agreement, GATT and the WTO Agreement on Safeguards.

Source: Author's own computation based on data from South African Institute of International Affairs (2015), European Commission (2015) and Tralac (2010)

4.2.3 Tanzania's tariffs

Trade policy developments in Tanzania included tariff adjustment and elimination. This takes into account the Most-favoured-nation (MFN)-applied duties and preferential duties. The import tariff schedule on all HS 6 product groups for Tanzania is presented in Table 4.3.

Table 4.3: Total tariff schedule (2014)

	Final bound duties				MFN applied duties			Imports	
Product groups	AVG	Duty-free in %	Max	Binding in %	AVG	Duty-free in %	Max	Share in %	Duty-free in %
Animal products	120	0	120	100	23	7.7	25	0.1	17
Dairy products	120	0	120	100	52	0	60	0.1	0
Fruit, vegetables, plants	120	0	120	100	22	8.4	25	0.1	16.6
Coffee, tea	120	0	120	100	20	16.7	25	0	2.6
Cereals & preparations	120	0	120	100	23	10.3	75	3.6	1.4
Oils, fats & oils	120	0	120	98.6	12	20.5	25	2	56.1
Sugars & confectionery	120	0	120	100	34	0	100	1.2	0
Beverages & tobacco	120	0	120	100	25	0	35	0.9	0
Cotton	120	0	120	100	0	100	0	0	100
Other agricultural products	120	0	120	100	11	38.2	25	0.2	77.8
Fish & fish products	120	0	120	1.6	25	0.3	25	0.1	0
Minerals & metals	-	-	-	0	11	36.6	35	14.5	43.5
Petroleum	-	-	-	0	4	61.4	25	37.2	99.3
Chemicals	120	0	120	0.2	4	78.2	25	9.9	80.9
Wood, paper, etc.	-	-	-	0	14	25.5	25	1.8	20.6
Textiles	120	0	120	0.3	20	6.9	56	1.7	12.8
Clothing	-	-	-	0	25	0.2	50	0.6	13.3
Leather, footwear, etc.	-	-	-	0	13	21.1	25	2.1	7.7
Non-electrical machinery	120	0	120	0.2	3	75.2	25	6.8	52.1
Electrical machinery	-	-	-	0	11	35.4	35	4.9	42.4
Transport equipment	120	0	120	0.8	6	61.8	25	10.5	34
Manufactures, n.e.s.	120	0	120	0.5	15	31.4	40	1.6	61.8

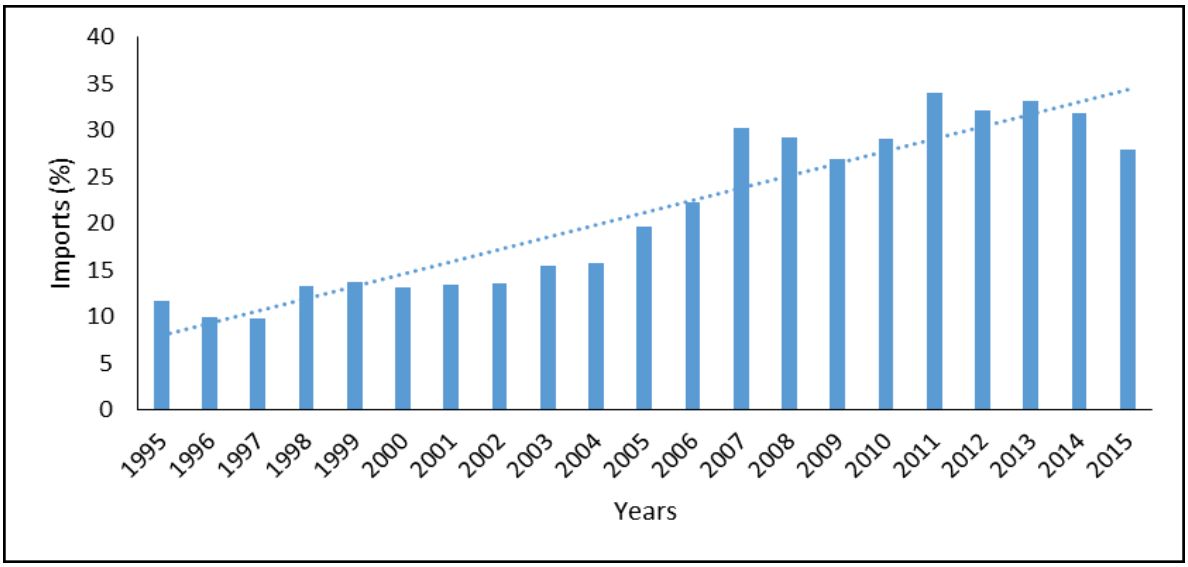
Source: WTO Tariff Profile (2014)

Tanzania has made significant strides in liberalising its imports by binding its tariffs and abolishing some. By 2014, the country had bound a larger share of its import tariffs to a simple average and a maximum *ad valorem* of 120. The average binding for most of the product groups is 100% which implies that all tariff lines in that particular product group are bound. There are some groups that have a coverage that is less than 10% (see Table 4.3). Under the MFN applied duties, the product groups listed in Table 4.3, with the exception of a few, were subject to a maximum of 25 *ad valorem* duties, whilst the rest ranged from 60 to 100 by 2014. Product lines with the highest share of imports free of MFN applied duties include cotton (100%), petroleum (61%) and chemicals (78%).

4.3 An overview of imports in Tanzania

The trade liberalisation process in Tanzania led to the removal of trade restrictions, which has had positive implications for the country's reliance on imports. A country's reliance on foreign goods and services for domestic consumption is measured through the import penetration ratio. The trends in the import penetration ratio for Tanzania are presented in Figure 4.1.

Figure 4.1: Tanzania's import penetration ratio (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

The import penetration ratio for Tanzania has been fluctuating over the years ranging between 48% in 1995 and 30% in 2015. Between 1993 and 2002, the country experienced a sharp decline in the level of domestic consumption catered for by imports from 48% to 20%, respectively. After 2002, the country saw a gradual increase, from 20% in 2002, to 36% in 2011, with fluctuations in between. In 2011, there was a decrease again from 36% to 30% in 2014.

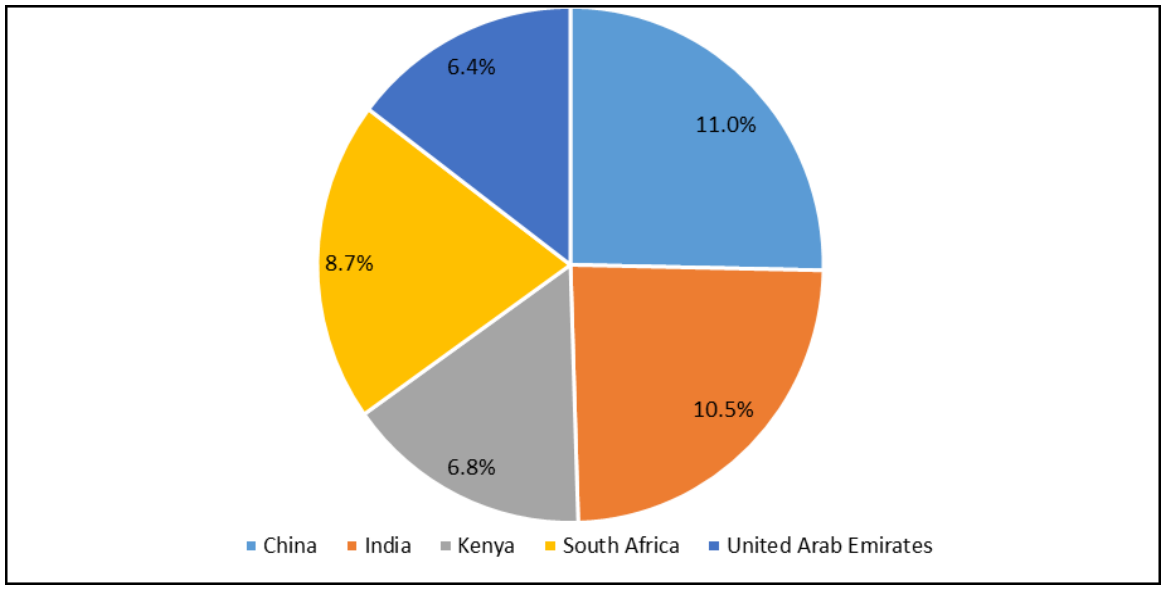
4.4 Major import sources in the world

Tanzania trades with several countries in the world, both developing and developed. Section 4.4.1 discusses the trends in the country's major import sources in the world.

4.4.1 Tanzania's top five import sources in the world

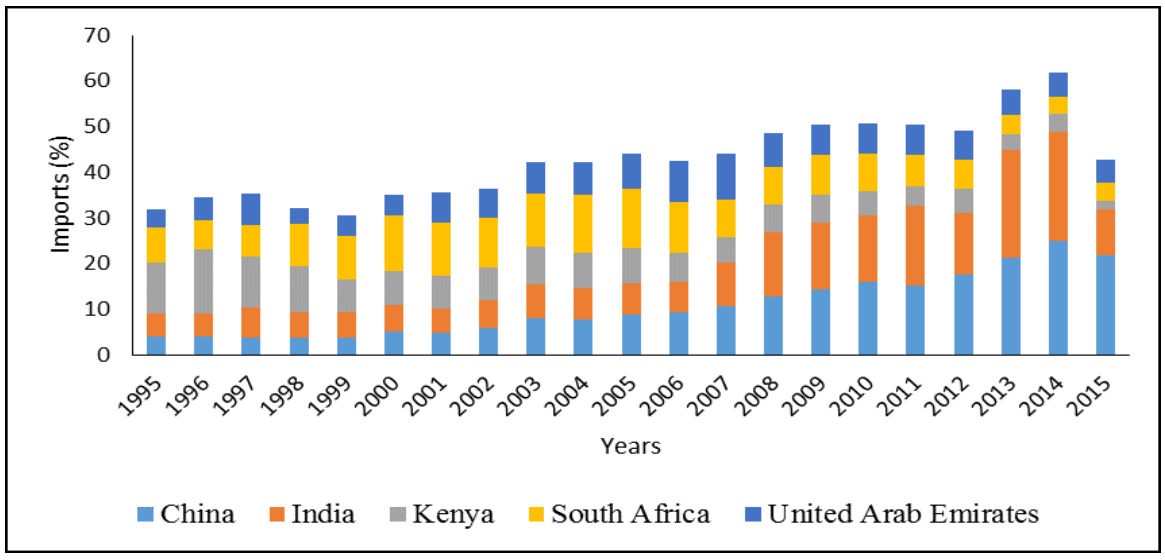
The top 5 sources of imports for Tanzania include Kenya, India, China, South Africa, and the United Arab Emirates (UAE). Figures 4.2 and 4.3 present the composition of imports by major import source over the period 1995-2014.

Figure 4.2: Annual average share of Tanzania's import products by major import origin (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

Figure 4.3: Share of Tanzania's imports by major imports source (1995-2015)

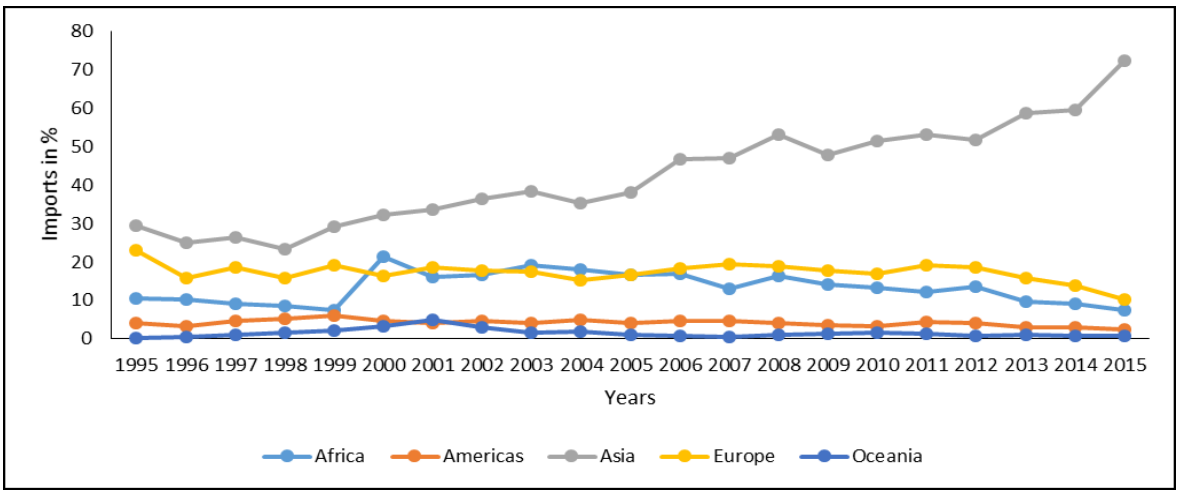


Source: UNCTADSTAT, 2014

On average, India (10.5%) and China (11.0%) have been the largest import origins for Tanzania over the years, followed by South Africa (8.7%) and Kenya (6.8%). The UAE

(6.4%) is the lowest contributor in the top five (see Figures 4.2 and 4.3). In 1995, India and China were the lowest sources, however, they gradually became the largest over time, overtaking Kenya and South Africa.

Figure 4.4: Tanzania's imports by major import source at continental level (1995-2015)



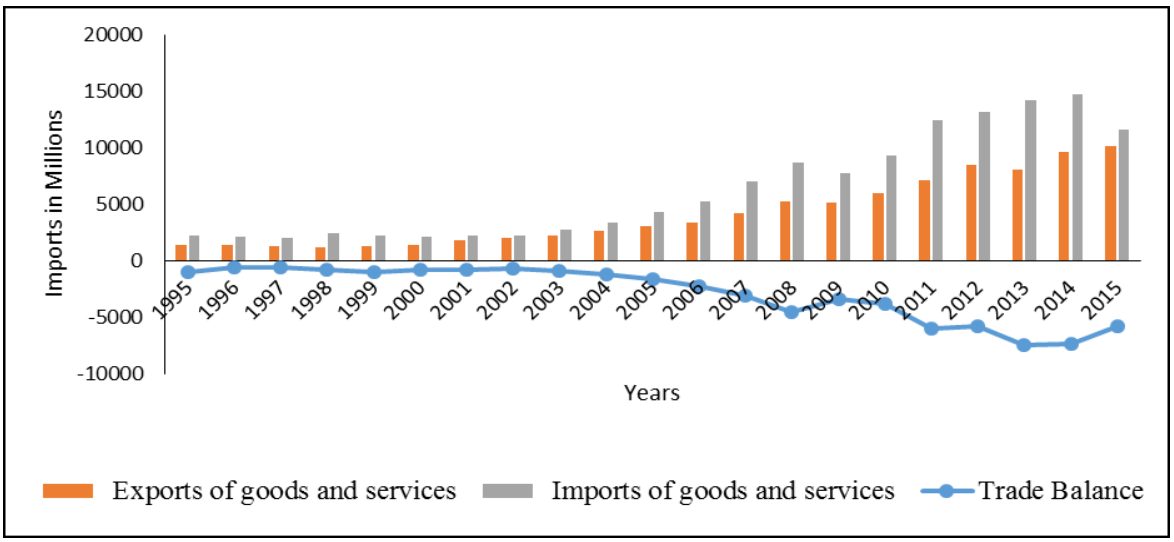
Source: UNCTADSTAT, 2014

The largest share of Tanzania's imports come from European and Asian countries, followed by African countries (see Figure 4.4). Over the period under review, Asia accounted for an average of more than 40%, Europe 17% and African countries 13% of the imports into Tanzania. Asia's contribution increased over the years, while there has been a decline in the contribution from other continents.

4.4.2 Import relations between Tanzania and Asian countries

Tanzania has bilateral trade agreements with Asian countries which account for approximately half of the country's imports. This is attributable to the trade relations that the country has with India and China particularly. Figure 4.5 presents the performance of Tanzania in terms of trade with the Asia.

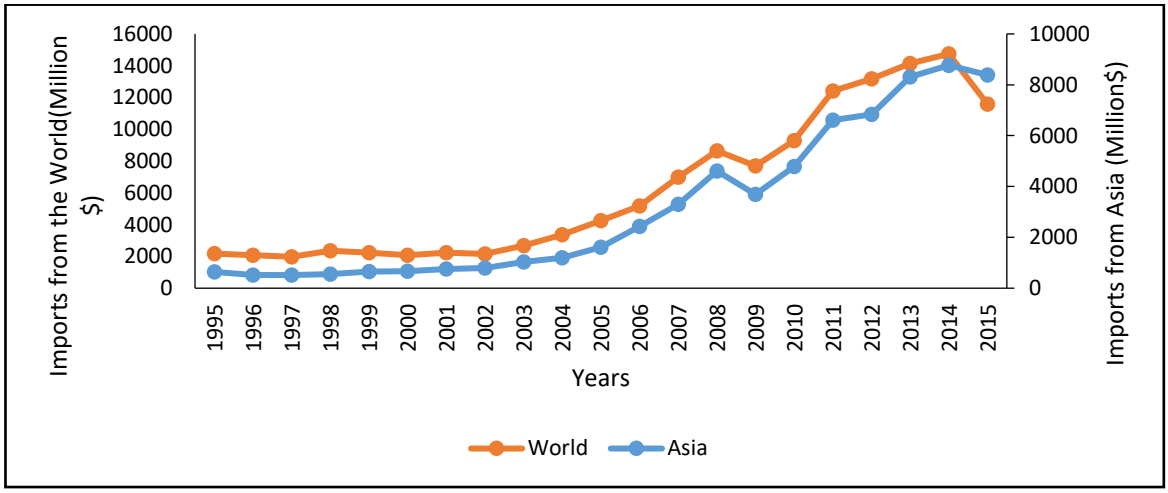
Figure 4.5: Trade with Asia countries (1995-2015)



Source: UNCTADSTAT database

Through the period 1995 to 2014, Tanzania was a net importer from Asia. As Figure 5 shows, the amount of exports from Asia to Tanzania increased over time, with the trade deficit also widening. Figure 4.6 shows trends in the country's imports from Asia and the world.

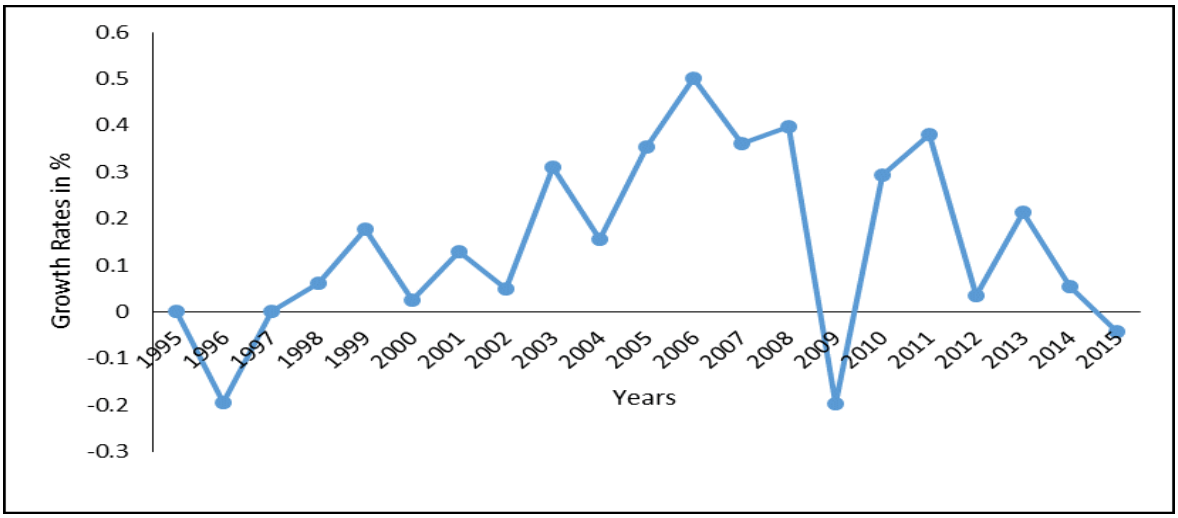
Figure 4.6: Trends in Tanzania's aggregate merchandise imports from Asia versus the world (1995-2015)



Source: UNCTADSTAT database

Over the period 1995 to 2015, imports from Asia into Tanzania followed comparable patterns with the country's imports from the world. Figure 4.7 portrays the growth rate of the imports from Asia.

Figure 4.7: Growth rates of Tanzania's total merchandise imports from Asia (1995-2015)



Source: UNCTADSTAT database

The import growth rate for imports from Asia into Tanzania fluctuated throughout the period 1995 to 2015. Between 2002 and 2007 the picture depicts a gradual increase with fluctuations in between. This was followed by a sharp decline in the rate of change, from 0.42% in 2008 to -0.18% in 2009 (see Figure 4.7). Table 4.4 lists the top 10 imports products from Asia to Tanzania.

Table 4.4: Tanzania's top 10 merchandise imports from Asia by product

Top 10 import products	Average imports in Millions of $	Average Share
Petroleum oils or bituminous minerals > 70% oil	828703	28.1%
Fixed vegetable fats & oils, crude, refined, fraction.	131488	4.5%
Medicaments (including veterinary medicaments)	47371	1.6%
Polymers of ethylene, in primary forms	56052	1.9%
Rubber tyres, tyre treads or flaps & inner tubes	65984	2.2%
Flat-rolled prod., iron, non-alloy steel, not coated	41964	1.4%
Telecommunication equipment,	53383	1.8%
Motor vehicles for the transport of persons	96004	3.3%
Motor vehicles for transport of goods and special purposes	65216	2.2%
Motorcycles & cycles	54823	1.9%

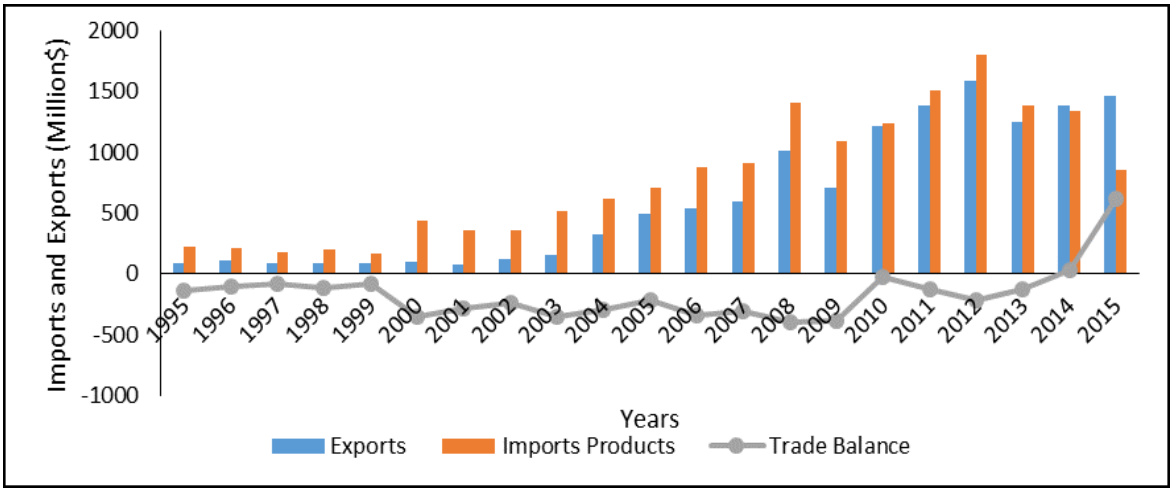
Source: Author's own computation based on UNCTADSTAT database

Petroleum oils or bituminous minerals (28.1%) is the most imported products from Asia, followed by fixed vegetable fats, oils, crude and/or refined (4.5%) and motor vehicles for the transport of persons (3.3%).

4.4.3 Import relations between Tanzania and other African countries

A significant share of Tanzania's imports originate from its fellow African countries. This section, therefore, provides details on trade relations between Tanzania and African countries. Figure 4.8 shows Tanzania's trade and trade balance with African countries.

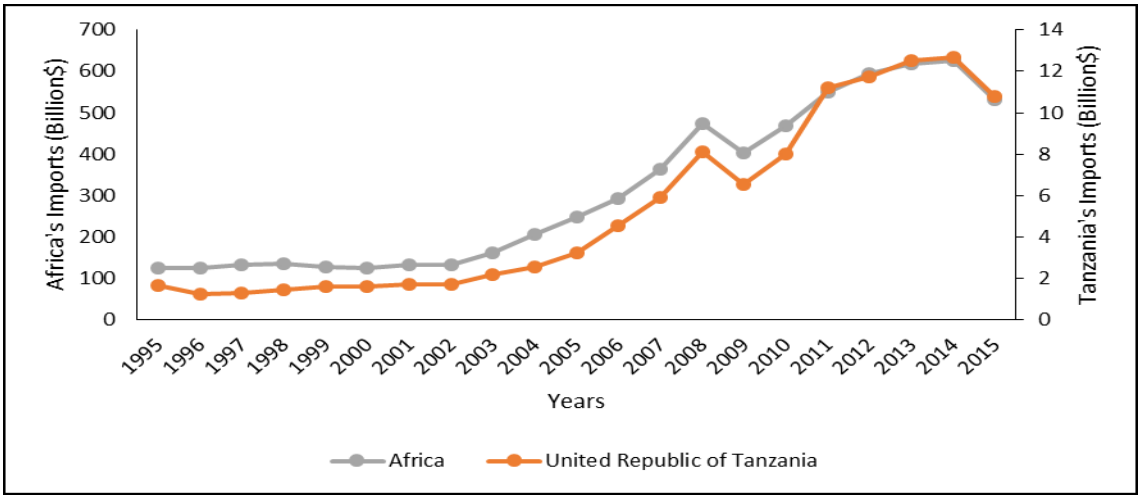
Figure 4.8: Tanzania's trade and trade balance with the African continent (1995-2015)



Source: UNCTADSTAT database

Over the period 1995 to 2013, Tanzania imported more than it exported to African countries. This is signified by the persistent negative trade balance over the years. In 2014, this changed as the country's exports to African countries eclipsed its imports from the continent. Figure 4.9 shows trends in Africa's imports from the world versus Tanzania's imports from the world.

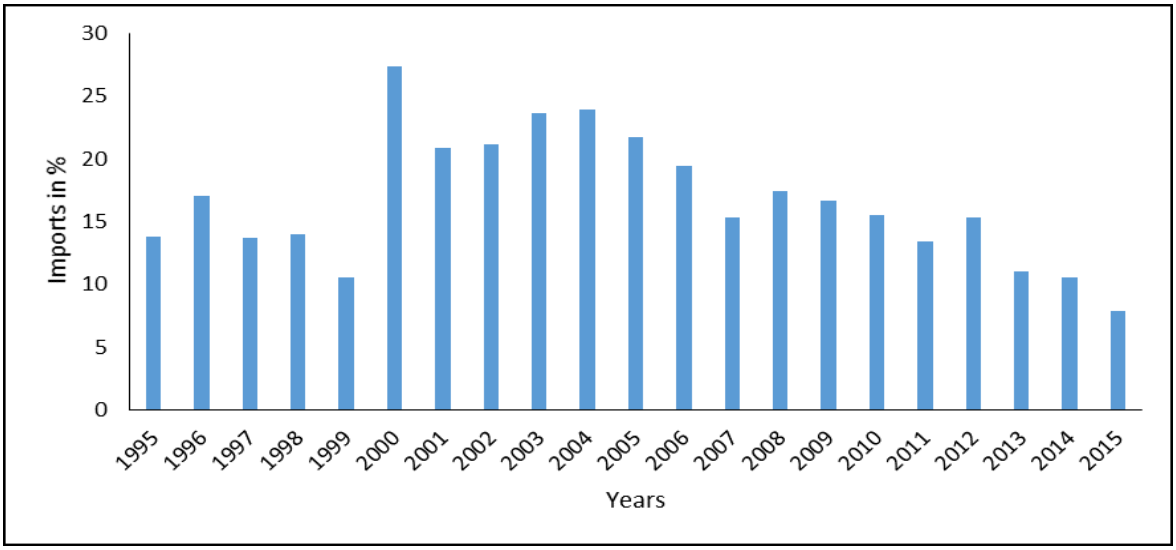
Figure 4.9: Africa's total imports from the world versus Tanzania's (1995-2015)



Source: UNCTADSTAT database

Imports into Tanzania from the world followed a similar pattern to Africa's imports from the world over the period 1995 to 2014. Figure 10 shows the share of Tanzania's imports from Africa to its imports from the world.

Figure 4.10: Tanzania's imports from African countries as a percentage of imports from the world (1995-2015)



Source: UNCTADSTAT database

Over the period 1995 to 2014, Africa's contribution to the total imports into Tanzania ranged between 10% and 27%. This is quite significant and shows that Tanzania relies on African countries for its imports. Table 4.5 provides details on the top 10 imports from Africa.

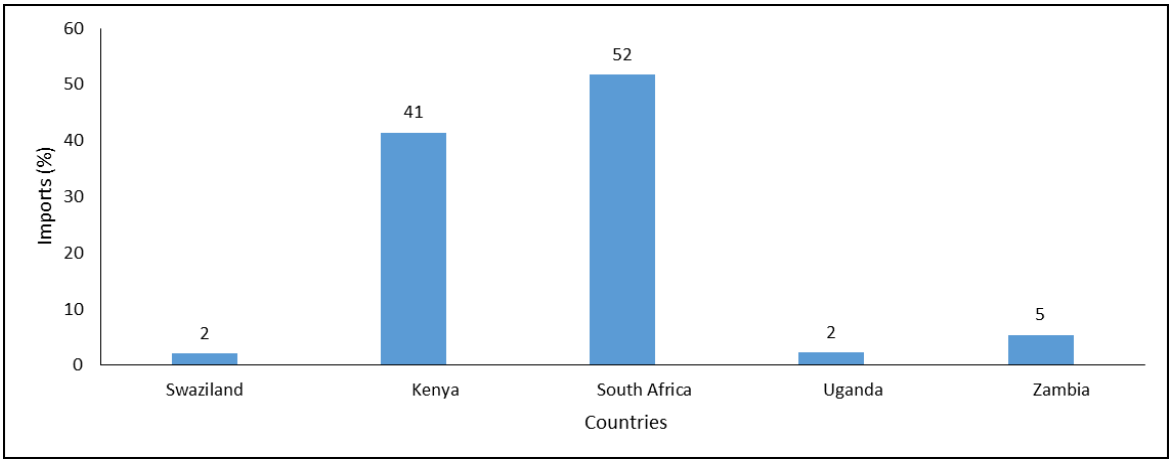
Table 4.5: Tanzania's top 10 imports products from Africa

Product	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
Alcoholic beverages	10.4%	6.4%	4.9%	3.2%	2.9%	1.3%	0.9%	0.6%	0.4%	0.5%	0.5%	0.6%	0.8%	0.5%	0.7%	1.0%	0.8%	0.8%	0.8%	1.0%	1.4%	1.9%
Articles, n.e.s., of plastics	2.0%	2.2%	4.2%	3.2%	2.8%	1.5%	2.2%	1.3%	1.7%	1.4%	1.9%	1.8%	1.3%	1.3%	1.3%	1.3%	1.2%	2.8%	1.4%	1.7%	2.0%	1.9%
Civil engineering & contractors' plant & equipment	0.7%	0.3%	0.4%	0.6%	0.8%	2.2%	2.6%	2.6%	1.5%	1.8%	2.1%	3.1%	2.4%	2.6%	2.3%	2.3%	3.4%	5.6%	2.0%	2.5%	2.0%	2.1%
Copper	3.5%	0.8%	0.5%	7.2%	0.0%	0.1%	0.2%	6.5%	11.9%	8.9%	3.5%	0.9%	1.8%	1.3%	1.1%	1.2%	1.9%	0.6%	0.7%	0.9%	1.3%	2.6%
Flat-rolled prod., iron, non-alloy steel, coated, clad	6.6%	11.1%	8.0%	2.9%	1.6%	0.9%	1.2%	0.6%	0.6%	1.0%	1.2%	1.1%	1.4%	1.6%	1.6%	1.8%	0.9%	1.5%	1.9%	2.4%	2.2%	2.5%
Flat-rolled prod., iron, non-alloy steel, not coated	0.4%	0.7%	0.8%	0.4%	0.5%	0.4%	0.7%	1.7%	3.8%	6.0%	8.3%	8.5%	6.8%	6.4%	4.9%	6.0%	5.8%	2.8%	2.9%	3.2%	3.5%	3.6%
Medicaments (incl. veterinary medicaments)	3.6%	3.8%	4.1%	3.7%	4.0%	1.7%	2.5%	1.7%	1.6%	1.9%	1.5%	1.3%	1.7%	2.6%	2.0%	1.6%	2.1%	2.6%	2.0%	2.9%	3.6%	2.5%
Motor vehic. for transport of goods, special purpo	5.4%	1.7%	2.0%	0.7%	1.3%	1.2%	1.0%	2.0%	1.9%	2.0%	2.9%	4.5%	3.3%	5.3%	4.1%	3.0%	4.3%	3.5%	3.6%	3.6%	3.3%	2.9%
Petroleum oils or bituminous minerals > 70 % oil	1.2%	4.1%	5.3%	10.4%	9.0%	31.2%	12.7%	11.8%	14.7%	14.8%	12.4%	8.1%	11.9%	16.5%	10.0%	11.1%	11.6%	8.2%	8.9%	3.1%	2.3%	10.4%
Soaps, cleansing and polishing preparations	5.0%	5.0%	5.7%	6.6%	5.8%	1.3%	1.9%	0.8%	1.0%	1.0%	1.3%	1.0%	1.1%	1.2%	1.8%	2.0%	1.6%	1.5%	2.2%	3.0%	2.5%	2.5%

Source: Author's own computation based on UNCTADSTAT database

The dominant import products from Africa in Tanzania include petroleum oils or bituminous minerals > 70% oil (10.4%), followed by flat-rolled products, iron, non-alloy steel, not coated (3.6%) (see Table 4.5). Figure 4.11 shows the composition of Tanzania's imports, by African major sources.

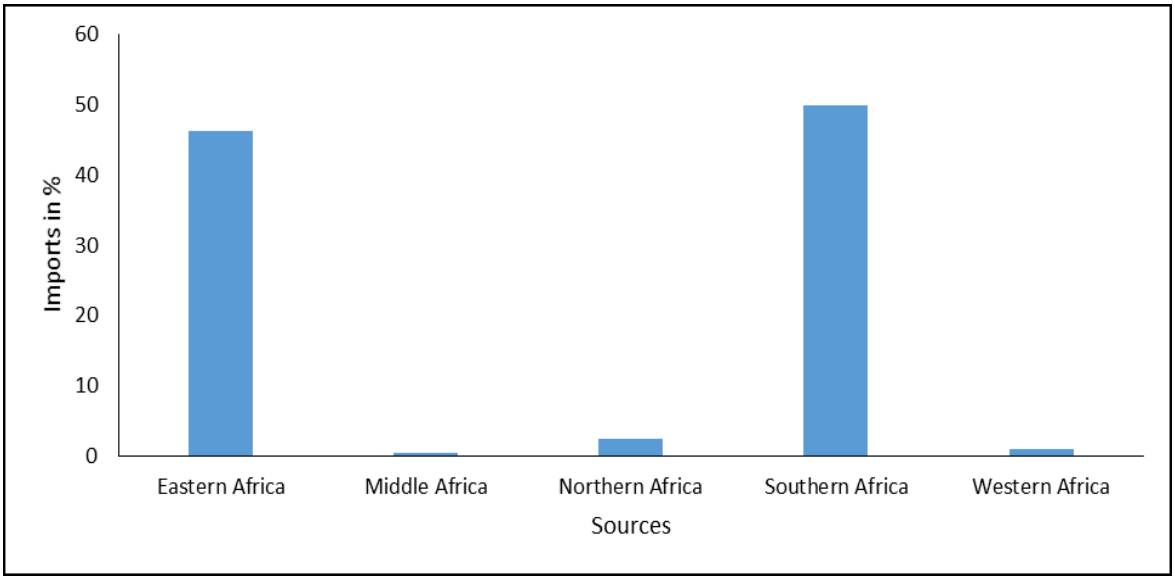
Figure 4.11: Tanzania's top 5 African import sources by country (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

On annual average, the country's African main sources of imports include South Africa (52%), Kenya (41%), Swaziland (2%), Uganda (2%) and Zambia (5%) (see Figure 11). Figure 4.12 portrays trends in imports into Tanzania by African regional source over the period 1995-2015.

Figure 4.12: Tanzania's annual average total imports by African region (1995-2015)



Source: Author's own computation based on UNCTADSTAT database

Southern African countries are the major sources of imports in Tanzania as they account for 50% of the country's imports from Africa. The second largest source is the East African region, which accounts for 46%.

4.4.4 Trade relations between Tanzania, SADC and EAC

Tanzania is a member of both SADC and the EAC. As a member state, the country benefits from the free trade agreements and customs unions that have been established in the two regions. This section presents the patterns of imports originating from SADC and the EAC in Tanzania. Table 4.6 presents the annual average share of imports in each SADC member state to total SADC imports.

Table 4.6: SADC's imports by member state (1995-2015)

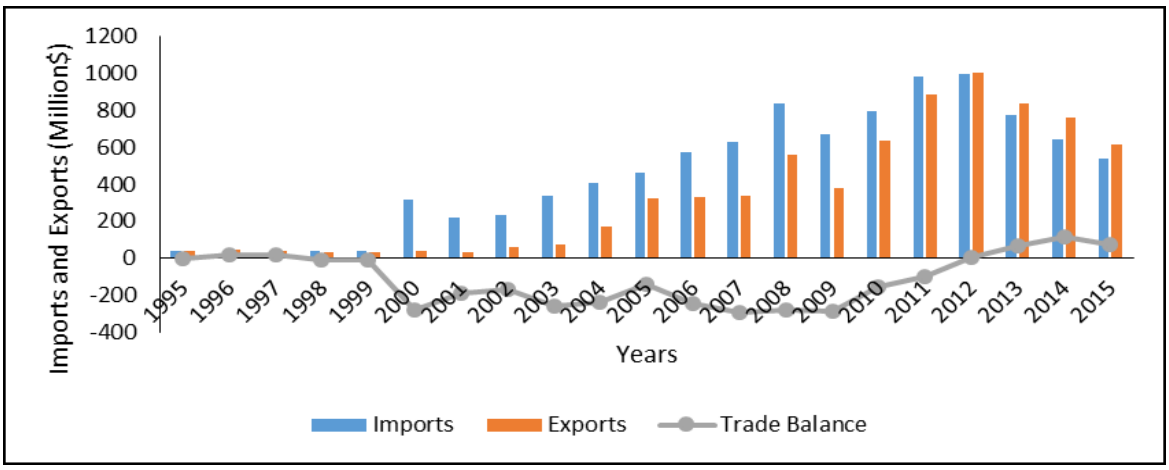
Countries	Value of annual average imports in Millions of $	Annual average share of imports to total SADC imports
Angola	11.1	11%
Botswana	3.9	4%
Congo	2.8	3%
Lesotho	1.5	1%
Madagascar	1.8	2%

Malawi	1.4	1%
Mauritius	3.4	3%
Mozambique	3.3	3%
Namibia	3.5	3%
Seychelles	0.6	1%
South Africa	57.9	56%
Swaziland	1.5	1%
Tanzania	5.1	5%
Zambia	3.5	3%
Zimbabwe	2.9	3%

Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database

In SADC, Tanzania is the second most importing country, after South Africa. Over the period 1995 to 2014, the country accounted for 5% of the SADC's total imports (see Table 4.6). Within SADC, Tanzania trades with some of the countries. Figure 4.13 present's trends in trade between Tanzania and SADC member countries.

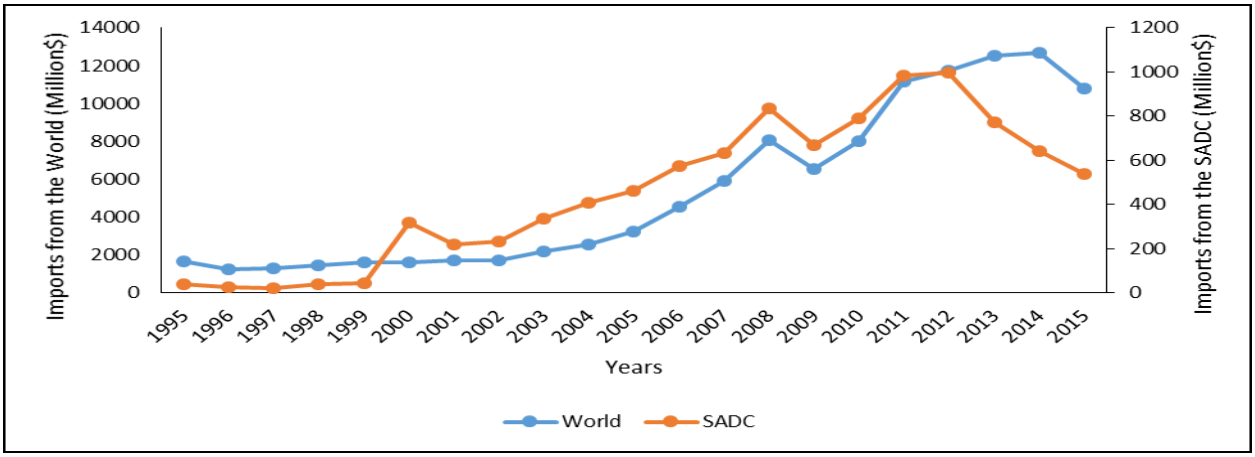
Figure 4.13: Tanzania's trade and trade balance with the SADC region (1995-2015)



Source: UNCTADSTAT database

Over the period 1995-2011, Tanzania was a net importer with SADC member states, recording a negative trade balance. The trade deficit for Tanzania widened over the years with imports increasing significantly. Figure 4.14 gives a picture of the performance of imports in Tanzania's imports from the SADC and from the world.

Figure 4.14: Tanzania's imports from the SADC and from the world (1995-2015)



Source: UNCTADSTAT database

The country's total imports from the world follow similar trends as the SADC's imports (Figure 4.14). Table 4.7 gives a geographical breakdown of the imports from the SADC region in Tanzania.

Table 4.7: Tanzania's imports originating from the SADC region by member state

Counties	Tanzania's imports products from SADC in Millions of $	Annual average share in %
Angola	198	0.0%
Botswana	1358	0.3%
Dem. Rep. of the Congo	797	0.2%
Lesotho	208	0.0%
Madagascar	430	0.1%
Malawi	6032	1.3%
Mauritius	3358	0.7%
Mozambique	5751	1.2%
Namibia	3843	0.8%
Seychelles	1407	0.3%
South Africa	380871	80.4%
Swaziland	24170	5.1%
Zambia	0	0.0%
Zimbabwe	45372	9.6%
SADC	**473796**	**100%**

Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database.

A larger share of the country's imports from SADC are from South Africa. Over the reported period 1995-2015, South Africa accounted for 80.4% of the total imports from the region. The top 10 import products from SADC are listed in Table 4.8.

able 4.8: Tanzania's top 10 imports from the SADC region by product

Products	Value of imports in Millions of $	Annual average distribution in %
Petroleum oils or bituminous minerals > 70% oil	1042	10.3%
Essential oils, perfume & flavour materials	360	3.6%
Paper and paperboard	346	3.4%
Flat-rolled prod., iron, non-alloy steel, not coated	677	6.7%
Iron & steel bars, rods, angles, shapes & sections	215	2.1%
Copper	431	4.3%
Structures & parts, iron, steel, aluminium	231	2.3%
Civil engineering & contractors' plant & equipment	286	2.8%
Telecommunication equipment & parts	217	2.1%
Motor vehicles for transport of goods and special purpose	446	4.4%

Source; UNCTADSTAT database

The petroleum oils or bituminous minerals (10.3%) and flat-rolled prod., iron, non-alloy steel, not coated (6.7%) remain the most imported products from SADC in Tanzania. Table 4.9 presents EAC imports in Tanzania by member state for the period 1995-2015.

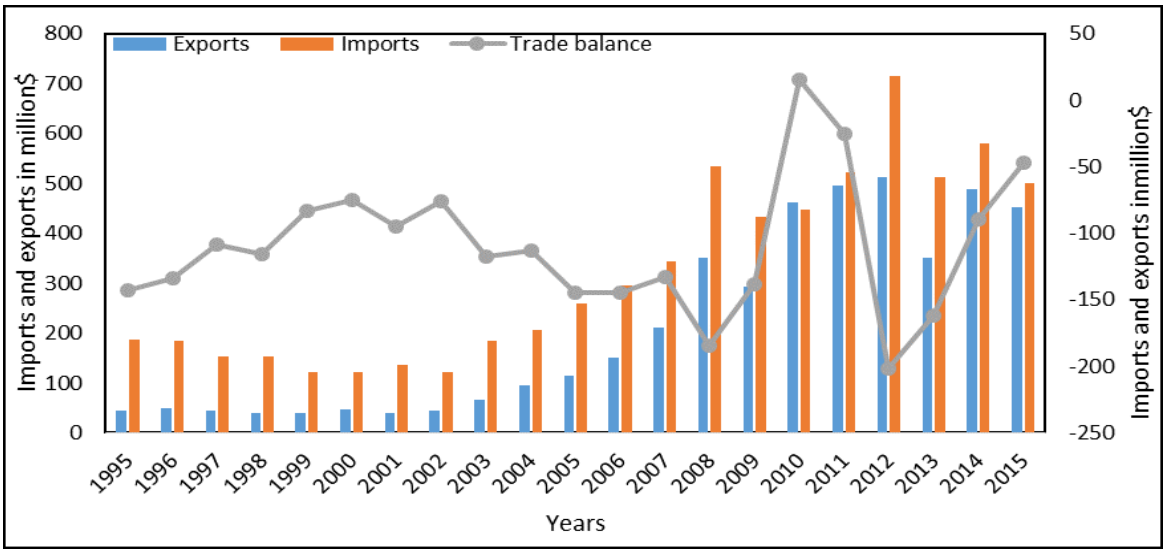
Table 4.9: Tanzania's imports from EAC by member state (1995-2015)

Countries	Annual Average Share	Value of Annual Average Imports in Billion$
Burundi	2%	0.4
Kenya	45%	8.1
Rwanda	5%	0.9
Uganda	17%	3.1
Tanzania	30%	5.3
EAC	100%	17.8

Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database.

In the period 1995 to 2015, Tanzania was the second most importing country in the EAC after Kenya. The country accounted for 30% of EAC imports and Kenya for 45%. Figure 4.15 shows trends in trade and the trade balance between Tanzania and the EAC region.

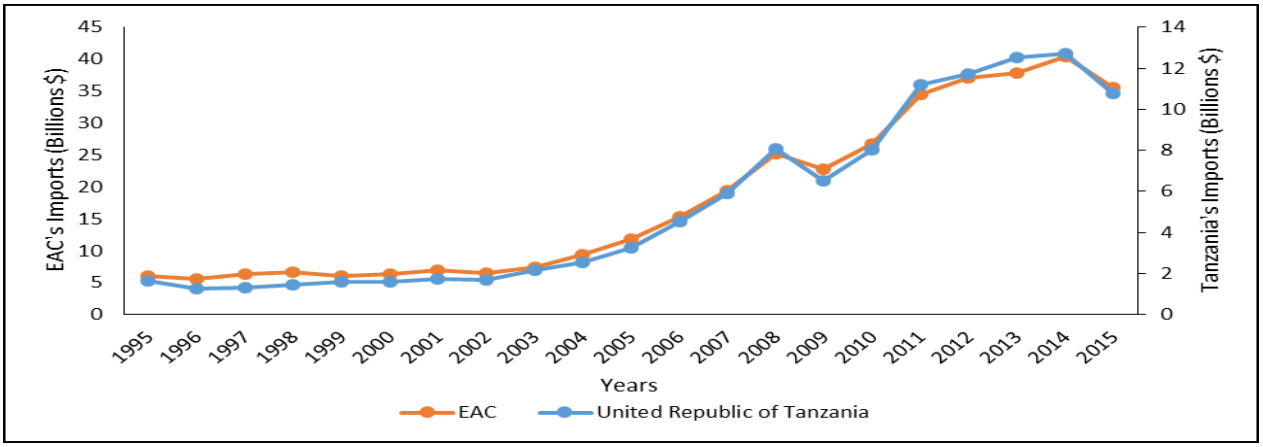
Figure 4.15: Trade and trade balance between Tanzania and the EAC region (1995-2015)



Source: UNCTADSTAT database

Since 1995, Tanzania has imported more than it exports to EAC countries, with the exception of the year 2010, when it recorded a surplus. Figure 4.16 show the total imports in Tanzania against the total imports in the EAC.

Figure 4.16: Total imports in Tanzania versus other EAC (1995-2015)



Source: UNCTADSTAT database

Tanzania's total imports from the world follow similar trends as the EAC's total imports. Being a leading importer in the region, a change in its imports performance is expected to lead to significant adjustment in total EAC imports. Table 4.10 presents a geographical breakdown of Tanzania's imports from the EAC for the period 1995-2015.

Table 4.10: Tanzania's merchandise imports from the EAC region by member state (1995-2015)

Countries	Imports product by country of origin in thousands of $	Annual average share in %
Burundi	982	0.3%
Kenya	287632	90.0%
Rwanda	9963	3.1%
Uganda	20927	6.5%
EAC	319504	100.0%

Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database.

A larger portion of the country's imports from the EAC are from Kenya (90%). Table 4.11 presents the top 10 merchandise imports form the EAC in Tanzania.

Table 4.11: Tanzania's top 10 imports from the EAC region by product (1995-2015)

Product	Value of imports in Millions of $	Annual average distribution in %
Petroleum oils or bituminous minerals > 70 % oil	30155	9.4%
Fixed vegetable fats & oils, crude, refined, fract.	7894	2.5%
Metallic salts & peroxy salts of inorganic acids	8648	2.7%
Medicaments (incl. veterinary medicaments)	16525	5.1%
Soaps, cleansing and polishing preparations	14190	4.4%
Flat-rolled prod., iron, non-alloy steel, coated, clad	10035	3.1%
Civil engineering & contractors' plant & equipment	6528	2.0%
Ships, boats & floating structures	8534	2.7%
Articles and plastics	12703	4.0%

Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database.

The country's imports from the EAC are dominated by primary commodities and manufactured products. Petroleum oils or bituminous mineral products (9.4%) are the main commodity that the country imports from the EAC, followed by medicaments (5.1%).

4.5 Import growth in Tanzania

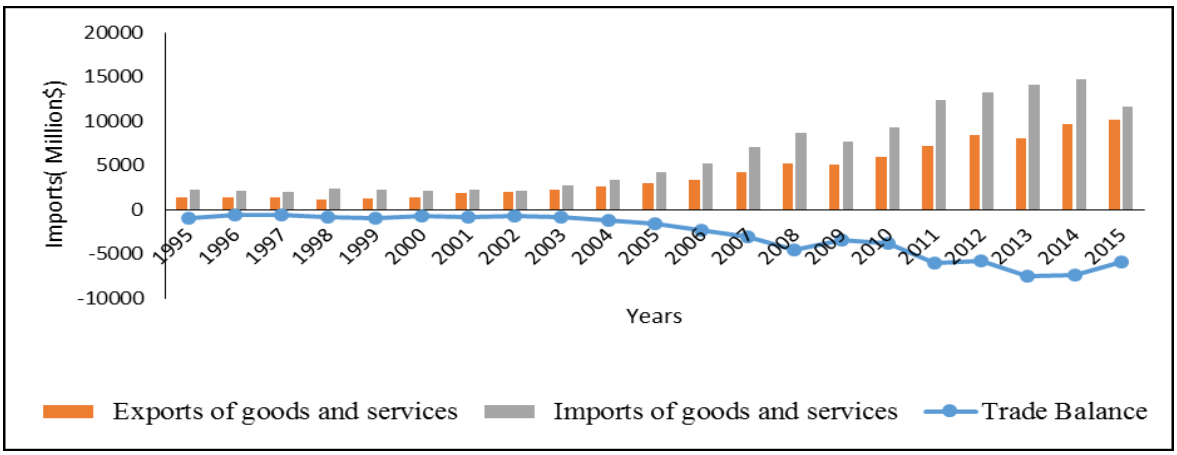
Tanzania imports and exports goods and services. However, following the introduction of trade liberalisation, among other factors, the country's imports rose, and it gradually became

a net importer. Section 4.5.1 discusses the structure and trends in Tanzania's imports at aggregate and disaggregate levels by product and source.

4.5.1 Structure and performance of imports in Tanzania

Figure 4.17 portrays trends in the country's trade and trade balance with the world over for the period 1995 to 2014.

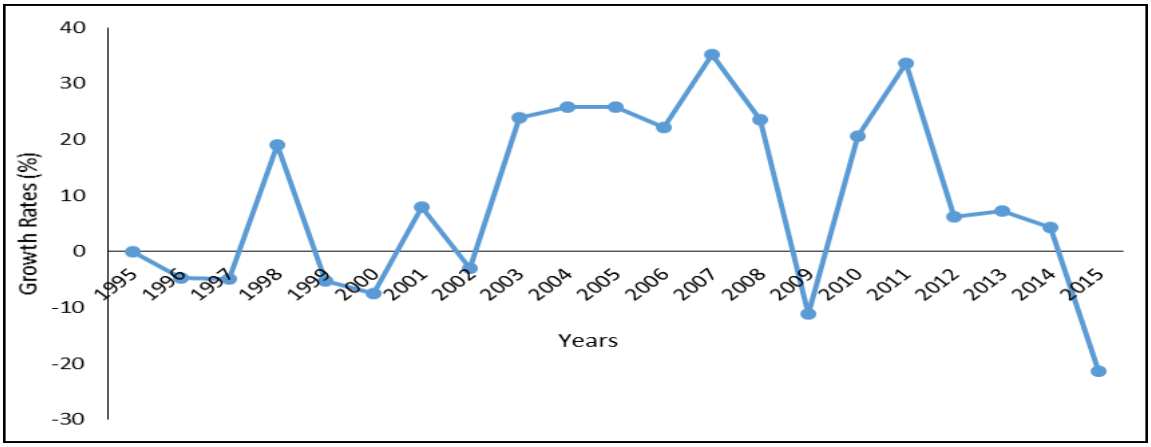
Figure 4.17: Trends in Tanzania's trade and trade balance (1995-2015)



Source: UNCTADSTAT database

Tanzania reported a trade deficit over the entire period 1995 to 2014, as import figures were higher and grew faster than exports. Figure 4.18 shows the rate at which the country's imports grew in this period.

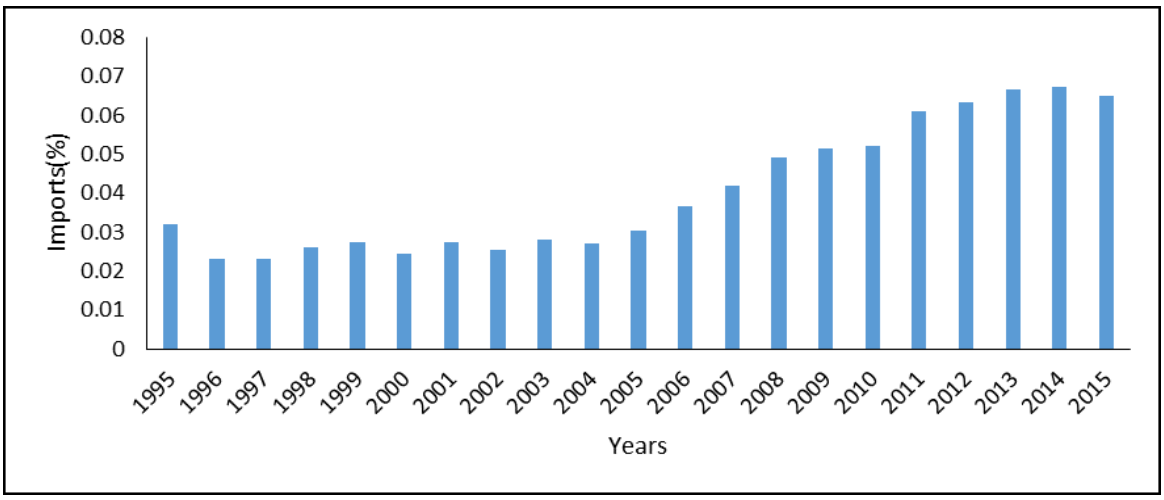
Figure 4.18: Tanzania's import growth rate (1995-2015)



Source: UNCTADSTAT database

The quantity of Tanzania's total imports from the world increased gradually, albeit with sharp declines in some years, throughout the period 1995-2015 (see Figure 4.18). Figure 4.19 shows the contribution of Tanzania's imports to the world's total imports.

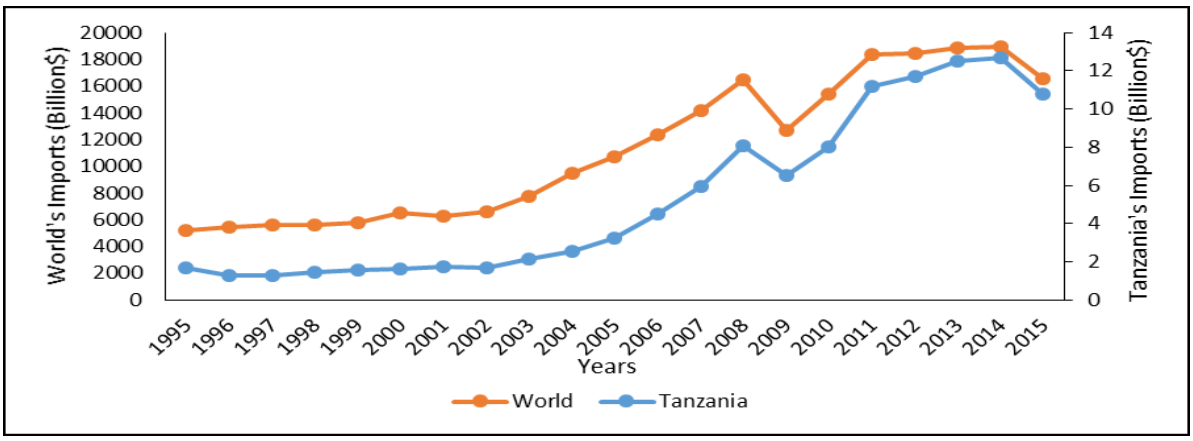
Figure 4.19: The value of Tanzania's imports as a percentage of the world's value of imports (1995-2015)



Source: UNCTADSTAT database

The country accounts for an insignificant share of the world's imports. Figure 4.19 shows that the share of imports in Tanzania to the world's imports. The country's contribution ranged between 0.03% and 0.07% between 1995 and 2015, and has been generally increasing over the years. Figure 4.20 shows the trends in imports in Tanzania against the world's value of total imports.

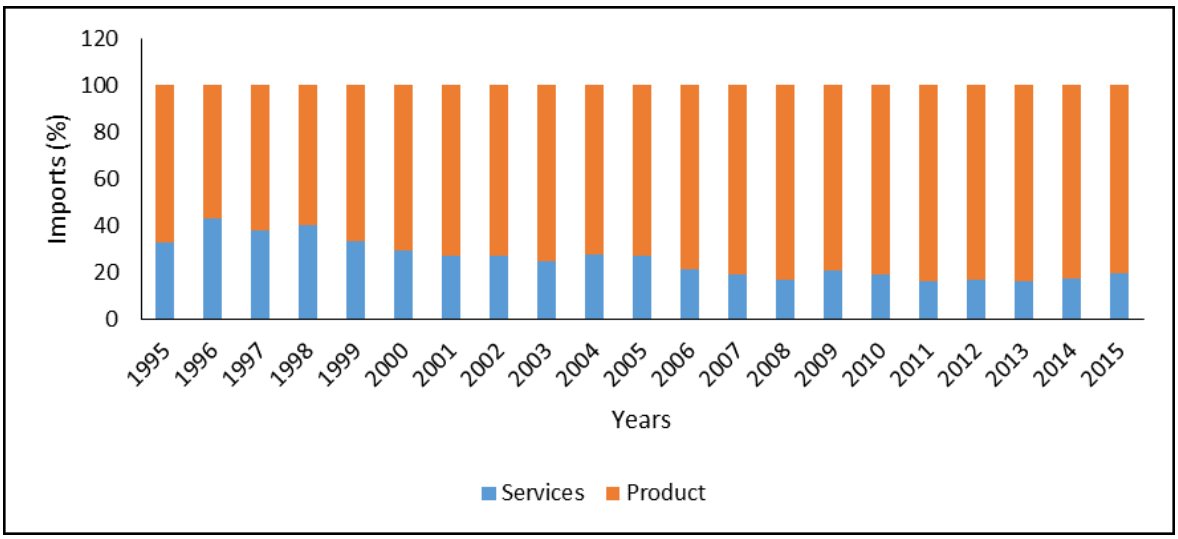
Figure 4.20: Trends in Tanzania's imports against the world's value of total imports (1995-2015)



Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database.

Over the period 1995 to 2014, Tanzania's imports adjusted in line with trends in the world's imports (Figure 4.20). Figure 4.21 shows the value of import products and services as a percentage of total trade in Tanzania.

Figure 4.21: The value of import products and services as a percentage of total trade in Tanzania (1995-2015)



Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database.

Tanzania's imports are predominantly products rather than services. As Figure 4.21 shows, over the period 1995 to 2015, the country's product imports accounted for more than 50% of total imports. Imported services declined, while product imports rose. Table 4.12 provides more details on the country's imports from the world.

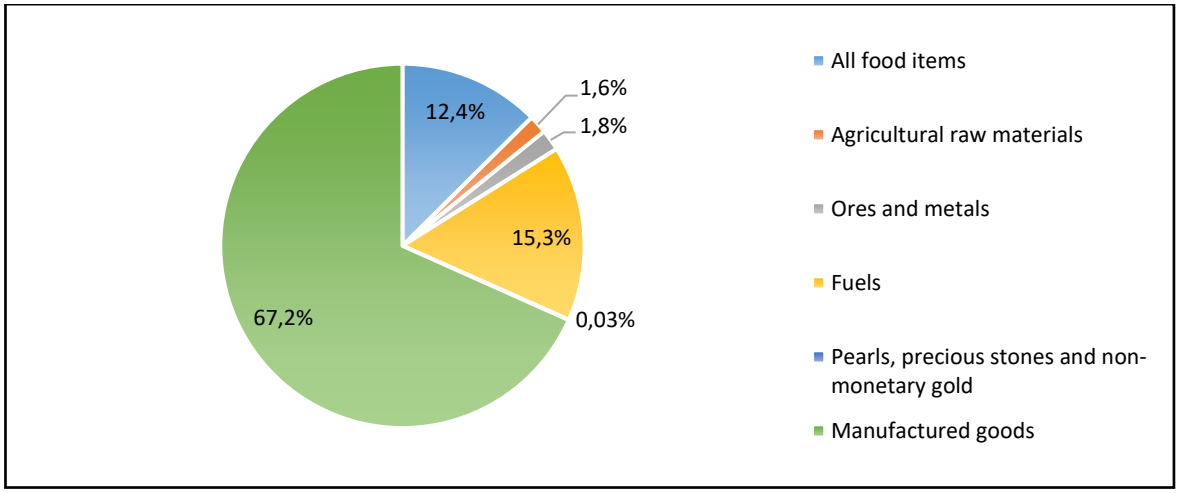
Table 4.12: Tanzania's top 25 product imports as a percentage of total products from the world over the period 1995-2015

YEAR	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
Wheat (including spelt) and meslin, unmilled	2%	1%	1%	2%	2%	1%	2%	2%	2%	3%	2%	3%	3%	2%	3%	3%	3%	2%	2%	2%	2%	2%
Sugar, molasses and honey	2%	3%	3%	3%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	1%	1%	1%	1%
Worn clothing and other worn textile articles	1%	2%	2%	2%	3%	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Petroleum oils or bituminous minerals > 70 % oil	3%	4%	4%	4%	3%	16%	10%	11%	13%	12%	14%	17%	20%	24%	18%	22%	25%	23%	32%	25%	34%	22%
Fixed vegetable fats & oils, crude, refined, fract.	2%	2%	4%	3%	2%	3%	3%	3%	3%	3%	3%	4%	3%	2%	2%	3%	3%	2%	2%	3%	2%	3%
Medicaments (incl. veterinary medicaments)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Fertilizers (other than those of group 272)	1%	2%	1%	1%	1%	1%	1%	1%	1%	2%	2%	1%	1%	2%	2%	2%	2%	1%	1%	1%	1%	1%
Polymers of ethylene, in primary forms	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	3%	1%	1%	1%	2%	2%	2%	1%	1%	2%	1%	1%
Other plastics, in primary forms	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%	1%	2%	1%	1%
Rubber tyres, tyre treads or flaps & inner tubes	1%	1%	1%	1%	1%	1%	1%	2%	1%	1%	2%	2%	3%	2%	2%	2%	2%	2%	1%	1%	1%	2%
Flat-rolled prod., iron, non-alloy steel, not coated	1%	0%	1%	1%	1%	1%	1%	1%	1%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	2%
Iron & steel bars, rods, angles, shapes & sections	1%	1%	1%	1%	1%	0%	1%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Structures & parts, n.e.s., of iron, steel, aluminium	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Manufactures of base metal, n.e.s.	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Rotating electric plant & parts thereof, n.e.s.	1%	0%	1%	1%	1%	1%	2%	1%	1%	1%	1%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Civil engineering & contractors' plant & equipment	1%	1%	1%	2%	2%	2%	3%	3%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	1%	1%	1%	2%
Other machinery for particular industries, n.e.s.	1%	2%	1%	1%	2%	1%	2%	2%	2%	2%	1%	1%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Telecommunication equipment, n.e.s.; & parts, n.e.s	3%	2%	2%	2%	2%	3%	5%	2%	2%	2%	3%	4%	5%	4%	3%	2%	2%	2%	2%	2%	3%	3%
Electrical machinery & apparatus, n.e.s.	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Motor vehicles for the transport of persons	4%	4%	4%	3%	4%	3%	3%	3%	3%	3%	3%	3%	3%	2%	3%	3%	2%	2%	3%	2%	2%	3%
Motor vehic. for transport of goods, special purpose	4%	3%	3%	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	1%	2%
Road motor vehicles, n.e.s.	2%	2%	1%	1%	1%	1%	1%	2%	1%	1%	1%	1%	1%	1%	2%	2%	1%	2%	1%	2%	2%	2%
Parts & accessories of vehicles	4%	4%	3%	3%	3%	1%	2%	3%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Motorcycles & cycles	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Articles, n.e.s., of plastics	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%

Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database.

Petroleum oils (14%) is the leading import product in Tanzania (see Table 4.12). Figure 4.22 presents the proportion of the major import product groups in Tanzania.

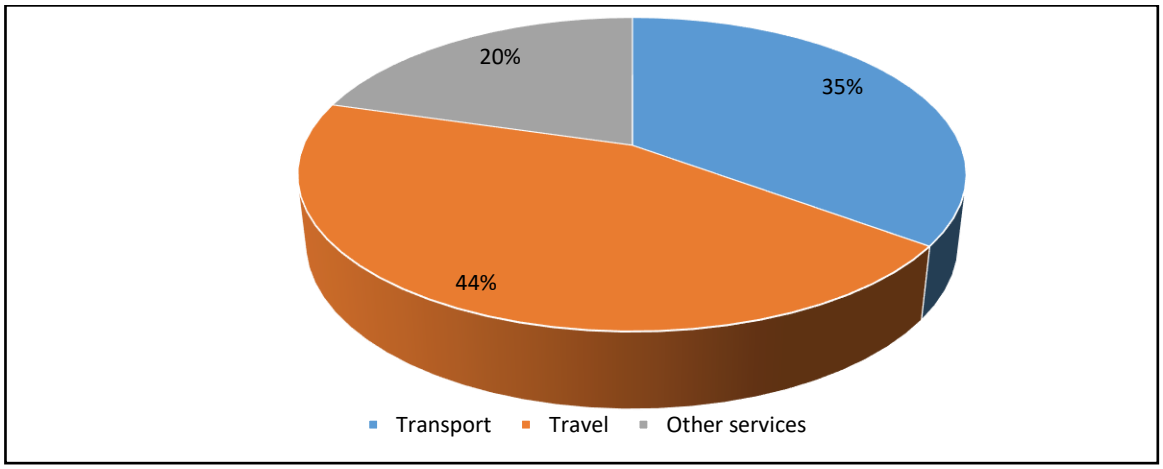
Figure 4.22: Average annual composition of imports by major product group (1995-2015)



Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database.

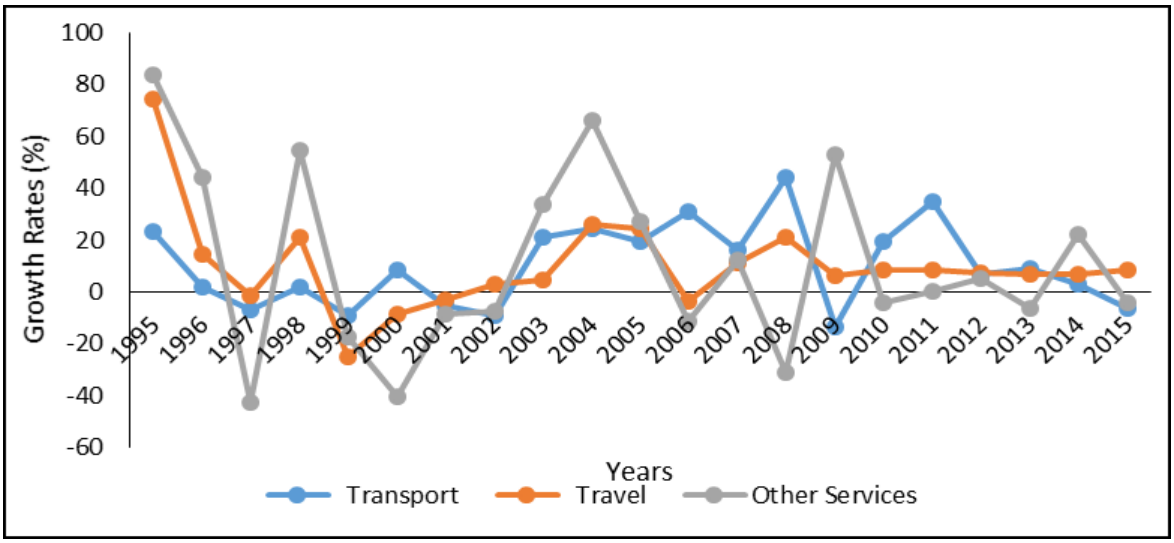
Tanzania's merchandise imports are predominantly manufactured goods. This group of products accounted for 67.2% of the total imports of Tanzania, followed by fuels at 15.3% and all food items at 12.4%. Figures 4.23 and 4.24 present the annual average share and annual growth rate of Tanzania's service imports over the period 1995 and 2015.

Figure 4.23: Tanzania's average annual share of service imports to total services imports by service group (1995-2015)



Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database.

Figure 4.24: Tanzania's annual growth rate of imports by service group (1995-2015)

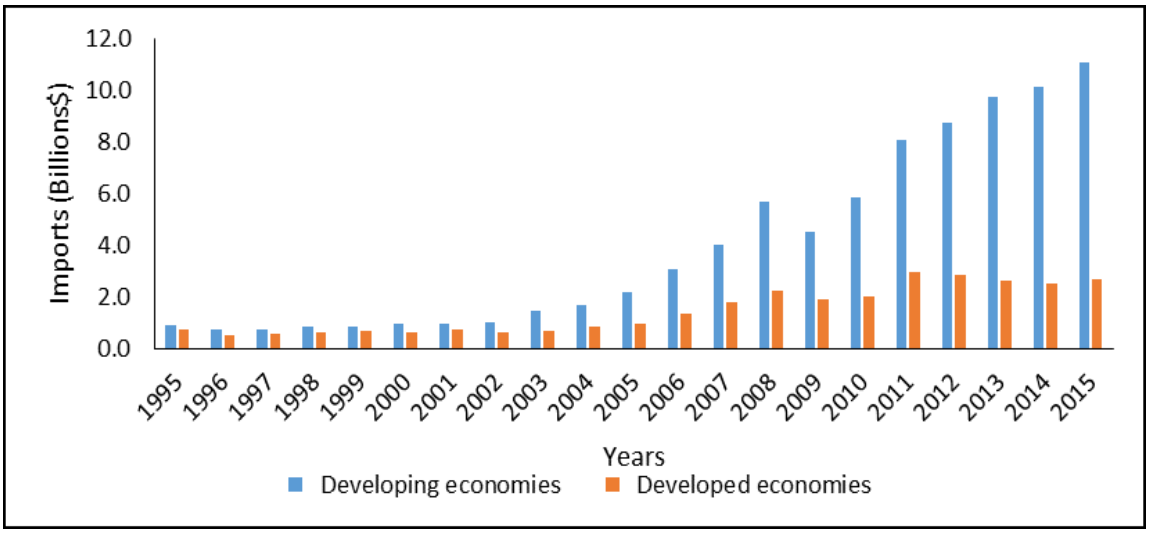


Source: Author's own computation based on UNCTADSTAT database.

The travel services appear to be the biggest contributor to Tanzania's service imports accounting for an average of 44% of the total imported services, followed by transport (35%) and 'other services' (17%). Even though the travel service is the largest contributor, it has been changing at a slower rate when compared to the other services (see Figure 4.24).

Over the period 1995 to 2014 Tanzania imported predominantly from developing countries. Figure 4.25 shows trends in imports in Tanzania by country group.

Figure 4.25: Tanzania's imports by country group (1995-2015)



Source: UNCTADSTAT database

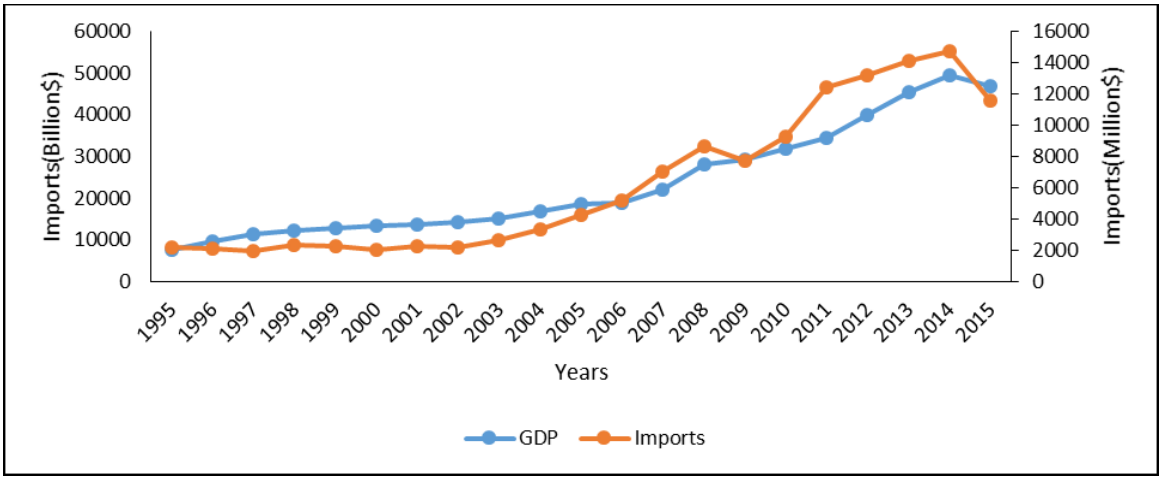
4.6 Factors affecting import demand in Tanzania

Findings from previous studies on the demand for imports suggest economic growth and trade liberalisation as major determinants of the demand for imports (Parikh, 2014).

4.6.1 Economic growth

A number of studies on different countries have confirmed that there is a link between imports and economic growth. Also, according to literature, economic growth is one of the major determinants of import demand (Aker, 2008). Figure 4.26 shows trends in imports for Tanzania against its economic growth over the period 1995-2013.

Figure 4.26: Trends in imports demand and economic growth in Tanzania (1995-2015)



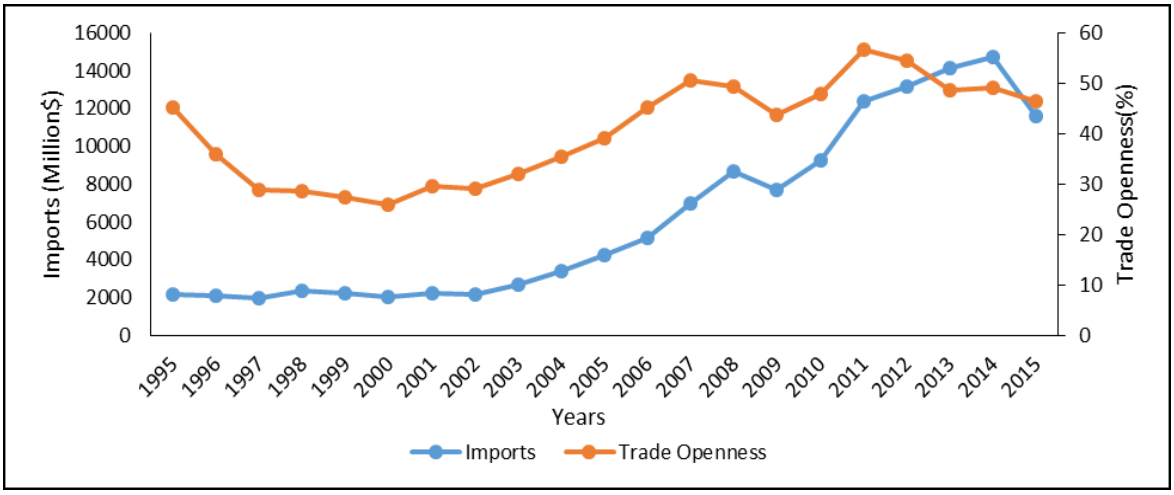
Source: UNCTADSTAT database (2014) and World Bank (2014)

Over the period 1995 to 2014, these two variables have been moved in step. However, imports have at times declined regardless of the increase in economic growth.

4.6.2 Trade openness

The biggest driver of trade reforms in Tanzania has been trade liberalisation. This had been more on tariff reduction, which, in theory, should encourage import demand. Trends in trade openness against import demand in Tanzania are presented in Figure 4.27.

Figure 4.27: Trade openness and imports in Tanzania (1995-2015)



Source: UNCTADSTAT database and Author's own computation based on UNCTADSTAT database.

Tanzania's import demand and trade openness followed similar trends over the period 1997 to 2011. During the period 1995 to 1997 and 2009 to 2013, the two variables were moving in different directions (see Figure 4.27). In both periods, imports rose, while trade openness declined.

4.7 Conclusion

The chapter presented a brief analysis of import policy developments in Tanzania, focusing on policies affecting import demand. It also analysed the behaviour and structure of imports in Tanzania over the period 1995 to 2015. As in the case of South Africa and Ghana, the findings emerging from the analysis are that, Tanzania has experienced a number of import policy reforms over the years. The reforms mostly included removal of quantitative restrictions, removal of import tax, reduction of the number of tariff lines and re-introduction of some of these restrictions. The country has made significant progress in establishing ties with different regional groups and individual countries. During the period 1995 to 2014, the country established a number of bilateral trade agreements with African and non-African countries, and regional groups. A larger proportion of imports in Tanzania originate from developing countries. Asian countries were shown to be the largest source of imports in Tanzania. In Africa, South Africa is the main import origin for Tanzania. The country's imports are dominated by manufactured goods, which account for more than 60% of the total imports from the world. Imports in Tanzania have largely responded positively to changes in economic performance and trade liberalisation.

CHAPTER 5

DETERMINANTS OF IMPORT DEMAND: THEORETICAL AND EMPERICAL LITERATURE REVIEW

5.1 Introduction

This chapter presents the theoretical and empirical literature on the determinants of imports. It is divided into four sections. Following this introduction, Section 5.2 presents the theoretical literature on the determinants of import demand. Section 5.3 reviews previous empirical studies on the determinants of imports, and Section 5.4 concludes the chapter.

5.2 Theoretical literature review

The major theories in literature that explain the import demand function include the imperfect substitution theory, new Keynesian theory, neo-classical theory, monetarist theory, and the production theory, and they are presented in Sections 5.2.1, 5.2.2, 5.2.3 and 5.2.4 respectively. These theories emphasise the role of income, price and exchange rates in the determination of trade (Hong, 1999).

5.2.1 Imperfect Substitution Theory

The imperfect substitution theory is also known as the new trade theory. It was developed in the early 1980's by Paul Krugman. According to this theory, the link between income and import demand goes beyond the purchasing power effect. It emphasises the assumption of differentiated goods, economies of scale and monopolistic competition (Bathalomew, 2010). The theory assumes that imports and exports are not perfect substitutes, and explains the role of income in determining the volume of imports at a more disaggregate level (Knight and Khan, 1986).

To explain the effect of price and income on import demand, this school of thought uses three approaches, that is, the Marshallian, Chamberlainian and Cournot approaches (Bathalomew, 2010). The Marshall condition assumes constant returns to scale at a firm's level but increasing returns at the industry level. The Chamberlainian approach assumes that an industry consists of many monopolistic firms and new firms enter the market with differentiated products in order to eliminate industry level monopoly profit. The Cournot approach assumes a market structure with few imperfectly competitive firms that take each

other's output as given (Bathalomew, 2010). In accordance with the conventional demand theory, the consumer is postulated to maximise utility subject to a budget constraint. In other words, the import demand function represents the income of the importing country, price of the imported good and the price of domestically produced goods (Goldstein and Khan, 1985). Based on this theory, the import demand can be explained as a function of real income of the importing country, price of imports and price of domestically produced products (Chani *et al.*, 2011; Goldstein and Khan, 1985). In the form of an equation, this can be expressed as:

$$\mathbf{M=Y_d + P_m + P_d} \quad \textbf{(5.1)}$$

Where:

M = Imports,

$\mathbf{Y_d}$ = Income of the importing country,

$\mathbf{P_m}$ = Price of imports,

$\mathbf{P_d}$ = Price of domestically produced goods.

The imperfect substitute theory is in line with the consumer theory of demand, where import demand is explained by the ratio of import price to domestic prices (Harvey and Sedegah, 2011). The major advantage of this model is that it is very close to what is observed in the real world (Goldstein and Khan, 1985).

5.2.2 Keynesian Theory

The Keynesian approach was developed by Keynes *et al.* (1952). It emphasises the importance of goods and services for balance of payments. The theory comprises three theories, that is, the Absorption theory, Elasticity theory and Keynesian multiplier approach.

5.2.2.1 Absorption Theory

The absorption theory proposed by Alexander (1952) focuses on macroeconomic factors affecting a country's current account. It expresses balance of payments as the difference between national income and total expenditure. This implies that if expenditure exceeds total production then imports will exceed exports resulting in a balance of payments deficit (Danjuma, 2013). The absorption approach does not allow for the existence of employment,

instead it uses the propensity to consume (Johnson, 1976). Devaluation also affects import demand through terms of trade. This is because a deterioration of the terms of trade due to valuation will lead to an improvement in a country's trade balance as it reduces the real income, and in turn, import demand of the country (Alexander, 1952).

The proponents of this theory argue that factors affecting domestic income and domestic consumption of goods and services automatically impact on imports.

They express the general output function as:

$$\mathbf{Y = C + I + G + (X - M)} \quad \textbf{(5.2)}$$

Where the total spending components can be expressed as:

$$\mathbf{A = C + I + G} \quad \textbf{(5.3)}$$

This can be expressed as:

$$\mathbf{Y = A + (X - M)} \quad \textbf{(5.4)}$$

Therefore, the trade balance equation under this approach is specified as**:**

$$\Delta\mathbf{(X - M)} = \Delta\mathbf{(Y - A)} = \Delta\mathbf{TB} \quad \textbf{(5.5)}$$

Where:

Y = output measured by gross domestic product (GDP),

A = is the domestic expenditure,

TB = Trade balance in domestic currency,

X = Value of exports

M = Value of imports.

According to this approach, a country's trade balance can only improve if consumption decreases, and this assumes a link between import demand and output. According to Karl and Fair (2007), it is necessary to take into account foreign price and domestic price when looking at import demand, as the imports are purchased from out of the country in question. Deriving from the balance of payment equation, imports can be expressed as:

$$\mathbf{M = f\ (GDP,\ Relative\ prices)} \quad \textbf{(5.6)}$$

The GDP factor includes spending on exports, private spending, public spending and investment, while relative price is measured as foreign price as a share of domestic price.

5.2.2.2 Elasticity Theory

The elasticity approach, also known as the J-Curve, puts more emphasis on the impact of real devaluation of exchange rate on balance of trade depending on the demand and supply of foreign exchange and foreign goods (Duasa, 2005). It explains both the short- and long-run responsiveness of trade balance to relative prices using the exchange rate approach. This approach analyses the impact of changes in exchange rate on relative prices and income, which, in turn, impacts on trade balance. It holds income constant and considers the conditions under which devaluation will correct the excess imports over exports (Johnson, 1976).

Under the Keynesian approach, a general expression of trade balance would be:

TB = f(Y, A, P, ER) …… (5.7)

Where TB is the balance of trade, Y is the real income, P is relative prices, A is the spending components and ER is the real exchange rate.

According to the Keynesian approach, an increase in domestic income is negatively related to balance of trade. This is because an increase in income would lead to an increase in consumption, and, in turn, an increase in import demand, which would result in a decrease in the trade balance. Relative prices under this theory are positively related to trade balances as an increase in relative prices reduces import demand and stimulates the appetite to export. In the elasticity approach the exchange rate has an indirect impact on the trade balance as it affects it through relative prices.

5.2.2.3 Keynesian Multiplier Approach

The Keynesian multiplier approach is based on the macroeconomic multiplier analysis (Bathalomew, 2010). It explains the import demand as a function of income and price, while assuming that employment is variable, and capital movements are adjustable (Englama *et al.*, 2013). It recognises and allows for the implications of changes in expenditure on output for balance-of-payments equilibrium (Johnson, 1976).

5.2.3 Neo-classical Theory

The Neoclassical theory is associated with the Heckscher Ohlin (H-O) framework which was developed based on the work of Ricardo (1817). The theory assumes that countries differ by factors of production, therefore, they import goods for which they have least factor endowment (Englama *et al.*, 2013). In other words, the theory suggests that import demand is also determined by the cost at which the importing country produces a particular commodity relative to its trading partner. The comparative advantage is focused on the effects of relative prices on the volume and direction of international trade, and is not concerned with the effect of changes in income on trade, as the employment is assumed to be fixed and output is given (Bathalomew, 2010).

5.2.4 Monetarist Theory

An alternative to the Keynesian approach is the Monetarist approach to balance of payments which was developed in the 1950s. The proponents of this approach emphasise the need to analyse the trade balance from the view point of monetary demand and supply. They perceive balance of payment as a monetarist phenomenon, and argue that disequilibrium in the balance of payments can be eliminated through an adroit manipulation of monetary variables, especially domestic credit, under fixed exchange rate, absence of sterilisation by the monetary authorities, and stable demand for money function (Akpansung, 1998, cited in Akpansung, 2013). The underlying assumption for this approach is that the changes in demand or supply of goods, services and assets lead to a change in balance of payments, which, in turn, result in changes in demand or supply of money. It treats the supply of money as endogenous by assuming a feedback effect from the balance of payments through changes in international reserves to changes in the monetary liabilities of the central bank (Akpansung, 2013). The argument in this approach regarding determinants of balance of payments is that money market disequilibrium leads to balance of payments disequilibrium. According to Duasa (2005), under this approach balance of payments imbalances will restore equality between supply of- and demand for money in the absence of official intervention. Akpansung (2013) points out two empirical propositions on which the monetary approach to balance of payments rests. The first one is that money demand is determined by a few macroeconomic variables. Secondly, it assumes that the price of traded goods and output are largely exogenous. Duasa (2005) presents trade balance as a function of income, prices and money supply. This is expressed in model form as:

TB = f(Y, P, Ms) …….. (5.8)

Where:

Y = Income,

P = Relative prices,

Ms = Money supply.

This approach assumes a negative relationship between trade balance and money supply. This implies that excess domestic money supply will lead to an increase in import demand, which impacts negatively on trade balance (Duasa, 2005).

5.3 Empirical literature review

A lot of empirical work has been carried out in attempts to examine the determinants of import demand, both in developing and developed countries. The empirical literature from developing and developed countries, and a combination of both, is presented in sections 5.3.1, 5.3.2 and 5.3.3, respectively.

5.3.1 The determinants of import demand in developing countries

5.3.1.1. Empirical findings from African Countries

Egwakhide (1999) examined the determinants of imports for Nigeria, using the ordinary least squares and error correction methods on time series data covering the period 1953 to 1989. The study modelled import demand as a function of income and relative prices, and the results showed that relative prices are the major determinants of imports in Nigeria.

Razafimahefa and Hamori (2005) also estimated the import demand function for Madagascar and Mauritius. The study applied the bounds test technique on annual data for the period 1960 to 2000. They expressed import demand as a function of relative prices and real income. The findings confirmed a long-run relationship between import demand and its determinants. In addition, the authors indicate that stabilisation and devaluation policies, two components of SAPs, could play a significant role in reducing import demand in these two countries.

For Nigeria, Chimobi and Ogbonna (2008), estimated the aggregated import demand function using the Johansen's co-integration and time series data over the period 1980 to 2005. The results suggested that real GDP largely explains import demand.

In 2009, Matsubayashi and Hamori, used recently developed panel co-integration techniques to examine the long-run stability of import demand function in Least Developed Countries (LDCs). The study used two sets of data, that is, a) annual data for 15 countries between 1965 and 2004, and b) annual data for 22 countries between 1984 and 2004. Findings were that import demand is determined by income and relative prices in these countries.

Bathalomew (2010) estimated the aggregate import demand function for Sierra Leone using the Autoregressive Distributed Lag (ARDL) over the period 1977 to 2008. Following the imperfect substitute theory, the study expressed the import demand as a function of relative prices, a policy dummy for trade liberalisation and income for the importing country. Relative prices were measured as a ratio of imports price to price for domestic goods, while income was split into private expenditure, public expenditure, investment expenditure and exports. The bounds test results suggested that there is a co-integration between imports and its determinants. Furthermore, the study found that, in the short run, private expenditure is the most influential factor, followed by government expenditure, exports and investment expenditure. In the long run, government expenditure, exports and consumption expenditures were found to be the major determinants of Sierra Leone's aggregate import demand, while investment expenditure appears to have no significant effect. Relative prices and trade liberalisation have no significant effect, both in the short run and in the long run. Bathalomew (2010) argues that the significant influence of expenditure components on import demand signifies the ineffectiveness of exchange rate policy in influencing import demand. The author advocates for the use of expenditure reducing policies rather than the exchange rate and they appear to be the most effective.

Narayan and Narayan (2010) re-estimated the import demand function for Mauritius and South Africa by applying the bounds test on time series data covering the period 1969 to 2008. The study specified import demand as a function of domestic income and relative prices, and the results showed evidence of a long-run relationship between import demand

and the estimated determinants in both countries, with income being the most significant factor.

While examining the determinants of import demand in CIBS countries (Brazil, China, India and South Africa), Zhou and Dube (2011) found that in South Africa, import demand is highly responsive and elastic to changes in long-run income. They also found a positive insignificant link between import demand and relative price. This implies that import demand in these countries is not highly responsive to changes in relative prices. The results on import demand are contrary to traditional theory, which specifies a negative relationship between relative import price and import demand. The study attributes this to the level of a country's economic development and type of goods that these countries import. For example, in the case of India, inputs account for a large percentage of Indian goods and capital goods imports are necessary for a country's growth. Also, Zhou and Dube (2011) argued that in the case of South Africa, imports in the sectors that are important for economic growth would not be responsive to changes in relative prices as the country continues to import these goods regardless of increases in prices.

Fatukasi and Awomuse (2012) also looked at a similar case for Nigeria, using the error correction model. The study stated aggregate import demand as a function of real GDP, external reserves, real exchange rates and an index of openness. The study covered the period from 1970 to 2008, and the findings confirmed a positive and inelastic relationship between import demand and its determinants, with the exception of external reserves. The results suggested a negative relationship between external reserves. This implies that for Nigeria, a unit change in each of these variables leads to a positive change on import demand. While import demand responds negatively to a unit change in external reserves. Also, the study found that all other variables were statistically significant, except the real exchange rate.

Omoke (2012) also carried out a similar study for Nigeria, focusing on the link between the disaggregated expenditure components of national income and import demand. This was tested by applying the Johansen's multivariate integration technique tests on annual time series data covering the period from 1970 to 2005. The study expressed import demand as a function of final consumption expenditure, expenditure on investment goods, expenditure on total export of goods and services, relative prices and a dummy variable for the trade

liberalisation policy. The findings from this study show that a change in all these variables impacts import demand in Nigeria.

Sikhosana (2012) found that the import demand for wheat in South Africa is determined by income per capita, the price of imported wheat, the price of sugar cane, which is a complement for wheat, and the level of domestic wheat production. To test this, the study applied the double logarithmic-linear model on time series data covering the period 1971 to 2007.

Oyovwi (2012) also examined the impact of real exchange rate volatility on Nigeria's imports using the Johansen's co-integration test. The result indicated that real exchange rates volatility had no significant effect on Nigeria's imports.

5.3.1.2. Empirical Finding from other developing Countries

Sinha (1997) estimated the import demand function for Thailand using annual data covering the period 1953 to 1990. The estimated model specified import demand as a function of income and relative prices. To estimate this, the study used the Johansen's co-integration approach and the ordinary least squares method. The results showed that aggregate import demand is explained by income and is price inelastic in the short run. However, in the long run, aggregate import demand is highly responsive to changes in income only, while it remains inelastic to changes in other variables.

Pattichis (1999) estimated the price and income elasticities of disaggregate import demand for Cyprus, using annual time series data covering the period 1975 to 1994. To estimate this, the study employed the bounds test and the results suggested that relative prices and income are the major determinants of import demand.

For Nepal, Rijal *et al.* (2000), examined the determinants of import demand using the Johansen's co-integration method on time series data covering the period 1968 to 1997. The study specified import demand as a function of import price levels, domestic price levels and gross domestic product (GDP). The findings revealed that GDP is the main determinant of import demand in Nepal, in the long run, as well as the short run. Furthermore, it was found that Nepal's imports are less responsive to changes in import prices and cross-prices. What is also worth noting is that Nepal's import demand responds mostly to general price changes than it does to import prices.

For Korea, Mah (2000) used the bounds test to examine the determinants of import demand for information technology products over the period 1980 to 1997. The study specified import demand as a function of relative prices and income. The results showed that the impact of income is insignificant, while relative prices is the most significant factor.

Anaman *et al.* (2001) studied the determinants of aggregate import demand for Brunei Darussalam over the period 1964 to 1997. The study modelled import demand as a function of real effective exchange rate, real GDP and population. Findings from the ordinary least squares method suggested that all the specified determinants have a significant impact on import demand. However, population appeared to be the most influential determinant of import demand.

Tang (2002) re-assessed aggregate import demand behaviour for Indonesia using the bounds test and data for the period 1960 to 1999. To empirically estimate the Indonesian import demand function, the study adopted the traditional theory of import demand, which expresses import demand as a function of GDP and relative prices, computed as a ratio of imports price index to domestic price index. This was done with the assumption that other variables can be incorporated in the two variables. The results confirmed stability in import demand function for Indonesia in the short run. However, in the long run, income has a positive and significant effect.

Min *et al*. (2002) estimated South Korea's income elasticity of import demand using the Johansen co-integration method. The study found that import demand is negatively and significantly affected by relative prices. There was also evidence of a positive and elastic long-run relationship between import demand and consumption expenditure, and a negative and insignificant relationship between investment expenditure and import demand, and finally a positive and inelastic effect of export expenditure on import demand.

For Iran, Abrishami and Mehrara (2002) examined the determinants of import demand for consumer, intermediate and capital goods over the period 1971Q2 to 1999Q1. To estimate this, they used the bounds test, and the results showed that the parallel market exchange rate is the main determinant of import demand.

For Malaysia, Tang and Nair (2002) carried out an empirical analysis of the aggregated import demand behaviour using the Unrestricted Error Correction Model-Bound method. They expressed the import demand as a function of income and relative prices. For income, the study used the gross domestic product (GDP) and relative prices were determined

through a ratio of the import price index to domestic price level. The results suggested that there are long-run elasticities of import demand with respect to income and relative prices.

In 2002, Aldakhil and Al-Yousef examined the determinants of aggregate import demand for Saudi Arabia over the period 1968 to 1998. To test this, the study used the Engle-Granger's and Hendry's error correction models. They expressed import demand as a function of real income and relative prices. The findings showed that, domestic price, import price, and income, are important determinants of import demand.

Lim and Kim (2002) examined the effect of economic and political changes on import demand in North Korea. The study expressed import demand as a function of income (gross national income) and price index (relative prices). The study applied the Johansen's co-integration method on annual data covering the period 1962 to 1992. The results showed non-market factors are the most important determinants of imports, as relative prices were found to be insignificant as a determinant of imports, while income was the most important determinant.

Dutta and Ahmed (2004) carried out a similar study for India using the Johansen's co-integration model on time series data for the period 1971 to 1995. They estimated import demand as a function of import relative prices, import liberalisation and gross domestic product. Findings showed that the gross domestic product is the most influential determinant of imports in India. Furthermore, it showed that import demand is less sensitive to changes in price, which reflects on the non-competitive nature of India's imports (Dutta and Ahmed, 2004). With regards to import liberalisation, the study found that the effect on import demand is very little.

Metwally (2004) studied the determinants of aggregate import demand function in the Gulf Cooperation Council Countries (GCC) (Bahrain, Oman, Saudi Arabia, Kuwait, and the United Arab Emirates) using the Johansen's co-integration approach on data covering the period 1967 to 2001. The study expressed import demand as a function of exports, government consumption, investment, private consumption and relative prices. The results showed that the components of gross domestic product are important determinants, while relative prices have no significant effect.

Ho (2004) carried out a similar study for Macao using the Johansen's co-integration approach. The study relied on time series data covering the period 1983 to 2003 and specified two models for import demand. The first model is aggregated, and specifies the

import demand as a function of aggregate spending and relative import price, while the second one specifies imports as a function of disaggregated spending and relative import price. With the disaggregated model, import demand is a function public and private consumption, real gross fixed capital formation and real exports. The criticism to the aggregate model is that it contains bias and may discount policy implications (Ho, 2004). The study found that import demand is positively related to total output and negatively related to relative import price.

For South Korea, Chang *et al.* (2005) used the bounds test to re-examine the relationship between the demand for imports and their determinants over the period 1980 to 2000. The study tested the relationship between import demand, and income and relative prices. The findings from this study showed that import demand, income, and relative prices are co-integrated and show the expected signs.

Agbola and Damoense (2005) estimated the import demand function for pulses in India using the Stock-Watson dynamic OLS method on time series data covering the period 1970 to 2000. The study expressed the demand for imports as a function of real gross domestic product, relative prices and urbanisation. The results from the study show that the demand for imports for pulses in India is determined mainly by real GDP, relative prices and urbanisation.

Hussain (2007) examined the long-run elasticities of import demand for Jordan using the Engle-Granger test of co-integration on time series data covering the period 1980 to 2004. The study expressed import demand as a function of real income and relative prices. The results showed that real income and relative prices are important determinants of import demand.

Arize and Osang (2007) looked at the determinants of imports, focusing on the impact of foreign exchange reserves in seven Latin America: Argentina, Brazil, Colombia, Costa Rica, Ecuador, Trinidad, and Venezuela. They applied the Johansen's co-integration approach on quarterly data covering the period from 1973Q2 to 1999Q1. The estimated model included foreign exchange reserves, income and relative price index as potential determinants. The findings showed that the three variables play a significant role towards import demand. Also, it was found that, the foreign exchange reserve is the least significant determinant when compared to income and relative prices index.

A similar study was conducted by Guncavdi and Ulengin (2008) for Turkey. The study examined the impact of macroeconomic components of aggregate expenditure on import demand by applying the Engle and Granger two stage co-integration test on time series quarterly data covering the period from 1987 to 2006. The estimated model included disaggregated components of income and relative prices. The results from this study show that in the long run, relative prices and expenditure for private and investment purposes are the major determinants of imports in Turkey, while public expenditure seems to have no significant impact.

Chen (2008) carried out a similar study for Taiwan using the bounds test co-integration approach on time series data covering the period 1976Q1 to 2004Q1. The study expressed import demand as a function of income and relative prices. The results suggested that import demand responds to changes in both income and relative prices. Furthermore, it was found that the effect of income is greater in the short run than it is in the long-run.

Using the double logarithmic-linear model, Uzunoz and Akcay (2009) examined the determinants of import demand for wheat in Turkey over the period 1984 to 2006. The study specified import demand for wheat as a function of income per capita, domestic prices, Turkish Lira-US Dollar exchange rate, and lagged import, production value of wheat, domestic demand and trend factor. The findings suggested that domestic wheat prices are the main determinant of import demand for wheat.

Agbola (2009) estimated aggregate short-run and long-run import demand functions for the Philippines over the period 1960 to 2006. The estimated model included private consumption, investment, and government expenditure, export of goods and services, and import price index as explanatory variables. To test this, the study employed the Johansen's co-integration approach and the results indicated that import demand and these factors are co-integrated in the long run. However, it was found that import demand is inelastic to changes in expenditure components in both the short run and long run.

Using the ARDL approach Shaista and Hammed (2010) studied the import demand function for Pakistan. The study specified import demand as a function of real economic growth, real effective exchange rate, relative prices of imports and volatility of real effective exchange rate. The result showed that only real GDP has influence on import demand. According to

the authors, this is because the demand for imports in Pakistan is growth driven. Furthermore, the result suggested that relative prices of imports do not lead to a decline in import demand. With regards to the remaining variables, the study found that they have no effect on import demand in Pakistan.

Emran and Shilpi (2010) carried out a similar study for India and Sri Lanka covering the periods 1952 to 1991 and 1960 to 1977, respectively. The study employed the Johansen's co-integration method and modelled import demand as a function of relative prices, private spending, and the ratio of real domestic exchange rate to real foreign exchange rate. In line with theory, the findings from the study revealed that prices and income are the most influential determinants of imports.

Using ordinary least squares, Tennakoon (2010) also assessed import demand function and its price and income elasticities for the post-liberalisation period from 1977 to 2007 for Sri Lanka. To examine the long-run and short-run effect of these variables, the study employed the standard characterisation of import demand function, and the results showed that relative price is inelastic for all categories of consumer goods, intermediate goods, and investment goods.

Yusop (2010) examined the effects of trade liberalisation on imports in the case of Bangladesh. To test this the study employed the bounds test approach with annual time series data from 1972 to 1973 and 2004 to 2005. In the estimated model, the study included income and relative prices as control variables. The results suggest that trade liberalisation has a significant impact in the short run and is insignificant in the long run. Furthermore, the results showed that both income and relative prices have a significant effect, both in the short run and in the long run.

For Pakistan, Chani *et al*. (2011) expressed import demand as a function of disaggregated components of the country's total expenditure measured by GDP. These components include total investment, the sum of household and government expenditure and expenditure on exports for goods and services. To empirically analyse this, the study used the Johansen's co-integration approach and error correction model on data covering the period from 1972 to 2008. The results from this study confirm a significant link between consumption expenditure, investment expenditure, and export and import demand. Consumption expenditure was found to be the most significant determinant of import demand in Pakistan.

The reason for this, according to the study, was that raw materials are used as inputs in the production of consumer goods in Pakistan. The results further confirmed a negative and insignificant link between import demand and relative prices in Pakistan. The results found in this study are in line with the Keynesian absorption theory, which states that an increase in economic growth leads to high import demand.

Zhou and Dube (2011) also estimated import demand function for Brazil, China, and India using the bounds test for co-integration approach for the period from 1970 to 2007. The study adopted the traditional approach which expresses import demand as a function of GDP and relative prices, and modified four other models. The first model modifies the traditional approach by including a dummy variable which captures structural changes. The second model replaced GDP with GDP less exports. The third model expressed import demand as a function of structural changes and disaggregated expenditure, that is, expenditure on investment and consumption, and exports. The fourth model replaced GDP in the first model with national cash flow. The findings show that for all the three countries and specified models, in the long run, import demand is highly responsive and elastic to changes in long-run income. Also, a positive insignificant link between import demand and relative prices was found. This implies that import demand in these countries is not highly responsive to changes in relative prices. The results on import demand are contrary to traditional theory which specifies a negative relationship between relative import price and import demand. The study attributes this to the level of a country's economic development and type of goods that these countries import. For example, in the case of India, inputs account for a large percentage of Indian goods and capital goods imports are necessary for a country's growth.

For Pakistan, Fida, *et al.* (2011) assessed the long-run relationship between import demand and its determinants using the bounds test on an annual time series data covering the period 1972 to 2011. The study expressed import demand as a function of real income and relative prices. The findings suggested that relative prices are negatively related to imports, while income has a positive effect. Furthermore, the results show that imports are more responsive to changes in relative prices and income in the long run.

A similar study was done by Modeste (2011) for three countries, namely, Guyana, Jamaica, and Trinidad and Tobago. The study applied the bounds test on time series data covering the period 1968 to 2006. The import demand function was expressed as a function of the sum of private and public consumption, real spending on investment, spending on exports

and relative prices. The study estimated both the aggregated and disaggregated model and the findings showed that the disaggregated model explains the demand for imports better than the aggregated model. In terms of the determinants of imports, the results suggested that import demand in these countries is inelastic to changes in private and public consumption, and real spending on investment, in both the long run and short run, even though these variables have a positive impact. On the other hand, relative prices and spending on exports were found to be important determinants of import demand in these countries.

For Mexico, Ibarra (2011) estimated the aggregate demand for intermediate imports using the Error-Correction Autoregressive Distributed Lag (EC-ARDL) framework and annual time series data covering the period from 1988 to 2006. The study estimated import demand as a function of aggregate economic activities and exchange rate. The results showed that import demand for intermediate goods is determined by economic activities and real exchange rate.

Majeed and Waheen (2012) found that the consumption and investment component of national income are the main determinants of imports, and that imports are less responsive to changes in relative import price in Pakistan. This was tested by applying the Johansen's co-integration approach and error on time series data for Pakistan, covering the period from 1974 to 2009.

Fukumoto (2012) estimated the disaggregate import demand functions for capital goods, intermediate inputs, and final consumption goods for China over the period 1988 to 2005. To estimate this, the author used the bounds test and specified the import demand for these groups of goods as a function of GDP, disposable income, aggregate consumption, aggregate investment, and aggregate exports. The findings suggested that import demand for capital goods is influenced by GDP and aggregate investment, intermediate goods are determined by exports, and import demand for consumption goods is determined by GDP.

Jiranyakul (2013) studied the impact of real exchange rate uncertainty on import demand of Thailand using the bounds test over the period July 1997 to December 2011. Real income and real exchange uncertainty were also used as explanatory variables in the estimated model. The results showed that both income and exchange rate uncertainty have an impact on import demand. It was found that the exchange rate uncertainty has a negative effect on Thailand's imports.

Khan *et al. (*2013) modified the traditional demand function for Pakistan by disaggregating real domestic income into consumption expenditure, investment expenditure and exports. The authors argued that disaggregating the import demand helps to deal with the aggregate bias related issues. To empirically estimate the long-run relationship between import demand and its determinants for the country under study, the study used data covering 1981 to 2009 and employed the Engle-Granger and Bounds tests co-integration methods. The results confirm a long-run relationship between import demand and its determinants. They reveal a positive link between import demand and expenditure components apart from exports expenditure which is adversely linked to import demand. Furthermore, the findings from this study show that the investment expenditure component is the dominant determinants of import demand in Pakistan. A negative link between relative prices and import demand was also found.

Budha (2014) examined the role of expenditure components on Nepal's imports from India. The study also used the bounds test on annual data for the period from1975 to 2011. The estimated model included private expenditure, public expenditure, investment expenditure and spending on exports, and relative prices and trade liberalisation as potential determinants of import demand. The findings showed that private consumption is a major determinant of Nepal's import demand from India, while government spending was found to have no significant impact. Unexpectedly, the investment and exports expenditure were found to have a negative effect on Nepal's imports from India while the relative prices and trade liberalisation appear to be positively related to import demand. According to Budha (2014), the unexpected positive relationship between the relative prices and imports signifies lack of substitutes for Nepal's imports from India. Furthermore, the author argues that Nepal can reduce its trade deficit with India by stimulating expenditure for investment purposes and enhancing the country's export base in order to reduce imports. This can be achieved by adopting expenditure switching policy from private spending and also adopting monetary and fiscal policies (Budha, 2014).

For Turkey, Yaprakli and Kaplan (2015) examined the import demand for crude oil by applying dynamic ordinary least squares estimation for the period 1970 to 2013. The study specified import demand as a function of income and the price of crude oil, and the findings confirmed partial elasticities of crude oil import demand. Table 5.1 provides a summary of empirical literature on the determinants of import demand in African developing countries

and other developing countries. The table is organised according to the classification of developing countries provided in UNCTADSTAT (2019).

Table 5.1: Summary of the reviewed empirical literature on the determinants of import demand in developing countries

Author(s) and Date	Title	Country	Tested Variables	Methodology	Major determinants
Empirical Findings from African Developing Countries					
Egwakhide (1999)	Determinants of Import in Nigeria: A Dynamic Specification	Nigeria	Income and relative prices	Ordinary Least Squares and Error Correction Method	Relative prices
Razafimahefa and Hamori (2005)	Import demand Function: Some Evidence from Madagascar and Mauritius	Madagascar and Mauritius	Relative prices and income	Bounds Testing Approach	Relative prices and income(in the long run)
Chimobi and Ogbonna (2008)	Estimating Aggregate Import-Demand Function In Nigeria: A Co-Integration Approach	Nigeria	Income and the relative prices	Johansen's co-integration	Income
Matsubayashi and Hamori (2009)	Empirical Analysis of Import Demand Behaviour of LDCs	Least Developed Countries (LDC)	Income and relative prices	Johansen's co-integration	Income and relative prices in these countries.
Bathalomew (2010)	An Econometric Estimation of the Aggregate Import Demand Function for Sierra Leone	Sierra Leone	Relative prices, policy dummy for trade liberalisation and expenditure components	Bounds Testing Approach	Private expenditure, government expenditure, exports and investment expenditure (in the

					short run). Government expenditure, exports and consumption expenditures (in the long run)
Narayan and Narayan (2010)	Estimating Import and Export Demand Elasticities for Mauritius and South Africa	Mauritius and South Africa	Domestic income and relative prices	Bounds Testing Approach	Domestic income and relative prices
Fatukasi and Awomuse (2012)	Determinants of Import in Nigeria: Application of Error Correction Model	Nigeria	Real income, external reserves, real exchange rates and an index of openness	Error correction model	Real income, external reserves, and index of openness
Omoke (2012)	Aggregate Import demand and Expenditure Components in Nigeria	Nigeria	Income, relative prices and a dummy variable for the trade liberalization Policy	Johannsen's co-integration approach	Income, relative prices and a dummy variable for the trade liberalization Policy
Sikhosana (2012)	An Estimation of Import Demand Function for Wheat in South Africa: 1971-2007	South Africa	Income per capita; the price of imported wheat and price of sugar cane	Double logarithmic-linear model	Income per capita; the price of imported wheat and price of sugar cane

Oyovwi (2012)	Exchange Rate Volatility and Imports in Nigeria	Nigeria	Real exchange rate volatility	Johansen's co-integration approach	Exchange rate volatility had no significant effect on imports
Empirical Findings from other Developing Countries					
Sinha (1997)	Determinants of Import Demand in Thailand	Thailand	Income and relative prices	Johansen's co-integration approach and Ordinary Least Squares method	Relative prices and income
Rijal *et al*. (2000)	Determinants of Nepalese imports	Nepal	Relative prices and income	Johansen's co-integration method	Relative prices and income
Mah (2000)	The Determinants of Import Demand for Information Technology Products	Korea	Relative prices and income	Bounds Testing Approach	Relative prices
Anaman *et al.* (2001)	Analysis of Determinants of Aggregate Import Demand	Brunei Darussalam	Real effective exchange rate, real income and population	Ordinary Least Squares	Real effective exchange rate, real income and population
Tang (2002)	Aggregate Import Demand Behaviour	Indonesia	Income and relative prices	Bounds Testing Approach	Income
Min *et al*. (2002)	An analysis of South Korea's Import Demand	South Korea	Disaggregated income and relative prices	Johansen co-integration approach	Disaggregated income and relative prices

Abrishami and Mehrara (2002)	Demand for Disaggregate Imports	Iran	Parallel market exchange rate	Bounds Testing Approach	Parallel market exchange rate
Tang and Nair (2002)	Aggregate Import Demand Behaviour for Indonesia: Evidence from Bounds Testing Approach	Malaysia	Income and relative prices	Unrestricted Error Correction Model-Bound method	Income and relative prices
Aldakhil and Al-Yousef(2002)	Aggregate Import Demand Function For Saudi Arabia: An Error Correction Approach	Saudi Arabia	Income and relative prices	Engle-Granger's and Hendry's error correction models	Income and relative prices
Lim and Kim (2002)	Economic and Political Changes and Import Demand Behaviour	North Korea	Income (Gross National Income) and relative prices	Johansen co-integration approach	Income
Dutta and Ahmed (2004)	An Aggregate Import Demand Function for India	India	Relative prices, import liberalisation and Income	Johansen co-integration approach	Income
Metwally (2004)	Determinants of Aggregate Imports in The GCC Countries".	Bahrain, Oman, Saudi Arabia, Kuwait, Kuwait, and the United Arab Emirates	Expenditure components(Export, government consumption, investment and private consumption) and relative prices	Johansen's co-integration approach	Disaggregated expenditure components
Ho (2004)	Estimating Macao's Import Demand Functions	Macao	Aggregate income and relative prices Disaggregated income and relative prices	Johansen's co-integration approach	Income and Relative prices

Chang *et al.* (2005)	A Re-examination of South Korea's Aggregate Import Demand Function: A Bounds Test Analysis	South Korea	Income and relative prices	Bounds Testing Approach	Relative prices and income
Agbola and Damoense (2005)	Time-series Estimation of Import Demand Functions for Pulses in India	India	Income, relative prices and urbanisation	Stock-Watson dynamic OLS method	Relative prices, income and urbanisation
Hussain (2007)	Estimating long-run elasticities of Jordanian import demand function	Jordan	Income and relative prices	Engle -Granger test of co-integration	Income and relative prices
Guncavdi and Ulengin (2008	Aggregate Imports and Expenditure Components in Turkey: Theoretical and Empirical Assessment	Turkey	Disaggregated expenditure components and the relative prices	Engle and Granger two stage co-integration test	Relative prices and expenditure for private and investment purposes (in the long run)
Chen (2008)	Long-run aggregate import demand function in Taiwan: an ARDL bounds testing approach	Taiwan	Income and relative prices	Bounds Testing Approach	Income and relative prices (in the short run)
Uzunoz and Akcay (2009)	Factors Affecting the Import Demand of Wheat in Turkey	Turkey	Income per capita, domestic prices, exchange rate,	Double logarithmic-linear model	Domestic wheat prices

			production value of wheat, domestic demand and trend factor		
Matsubayashi and Hamori (2009)	Empirical Analysis of Import Demand Behaviour of LDCs	Least Developed Countries (LDC)	Income and relative prices	Johansen's co-integration	Income and relative prices in these countries.
Agbola (2009)	Aggregate Imports and Expenditure Components in the Philippines: An Econometric Analysis	Philippines	Private consumption, investment, government expenditure, export of goods and services, import price	Johansen's co-integration approach	Expenditure components and relative prices (in the long run).
Bathalomew (2010)	An Econometric Estimation of the Aggregate Import Demand Function for Sierra Leone	Sierra Leone	Relative prices, policy dummy for trade liberalisation and expenditure components	Bounds Testing Approach	Private expenditure, government expenditure, exports and investment expenditure (in the short run). Government expenditure, exports and consumption

					expenditures (in the long run)
Shaista and Hammed (2010)	Exchange Rate Volatility and Pakistani Import Demand. An Application of Autoregressive Distributed Lag Mode	Pakistan	Real income, real effective exchange rate relative prices of imports and volatility of real effective exchange rate	Bounds Testing Approach	Relative prices
Emran and Shilpi (2010)	Estimating Import Demand Function in Developing Countries: A Structural Econometric Approach with Applications to India and Sri Lanka	India and Sri Lanka	Relative prices, private spending, ratio of real domestic exchange rate to real foreign exchange rate	Johansen's co-integration method	Relative prices, private spending, the ratio of real domestic exchange rate to real foreign exchange rate
Tennakoon (2010)	Price and Income Elasticities of Disaggregated Import Demand in Sri Lanka	Sri Lanka	Relative prices and income elasticities	Ordinary least squares	Categories of consumer goods, intermediate goods, and investment goods are inelastic to changes in relative prices

Yusop (2010)	Impacts of Trade Liberalisation on Aggregate Import in Bangladesh: An ARDL Bounds Test Approach	Bangladesh	Income and relative prices	Bounds Testing Approach	Income and relative prices
Chani *et al.* (2011)	Determination of Import Demand in Pakistan: The Role of Expenditure Components	Pakistan	Total investment, the sum of household expenditure and government expenditure and expenditure on exports for goods and services	Johansen's co-integration approach	Consumption expenditure, investment expenditure, and export
Zhou and Dube (2011)	Import Demand Functions: Evidence from CIBS	CIBS countries	Income, income less exports, dummy variable for structural changes, disaggregated expenditure components	Bounds Testing Approach	Income, relative prices
Fida, *et al.* (2011)	Revisiting Aggregate Import Demand Function	Pakistan	Real income and relative prices	Bounds Testing Approach	Real income and relative prices (in the long run)

	in Pakistan Using ARDL methodology				
Modeste (2011)	An Empirical Analysis of the Demand for Imports in Three CARICOM Member Countries: An Application of the Bounds Test for Co-integration	Three CARICOM Member Countries	Disaggregated expenditure components	Bounds Testing Approach	Disaggregated expenditure components and relative prices
Ibarra (2011)	A Note on Intermediate Imports and the BPCG Model in Mexico	Mexico	Aggregate income and exchange rate	Bounds Testing Approach	Aggregate income and exchange rate
Majeed and Waheen (2012)	Analysing the Import Demand Function with Expenditure Components: Evidence from Pakistan	Pakistan	the consumption and investment component of national income are and relative import prices	Johansen's co-integration approach	Consumption and investment component of national income.
Fukumoto (2012)	Estimation of China's Disaggregate Import Demand Functions	China	Capital goods, intermediate inputs, and final consumption goods	Bounds Testing Approach	Income, aggregate investment, exports

Jiranyakul (2013)	Exchange Rate Uncertainty and Import Demand	Thailand	Real income and real exchange uncertainty	Bounds Testing Approach	Income and real exchange rate uncertainty
Khan *et al. (*2013)	An Estimation of Disaggregate Import Demand Function for Pakistan	Pakistan	consumption expenditure, investment expenditure and export	Engle-Granger and Bounds tests co-integration methods	consumption expenditure, investment expenditure and export
Budha (2014)	The Role of Expenditure Components in Nepal's Import from India	Nepal	private expenditure, public expenditure, investment expenditure and spending on exports and relative prices and trade liberalisation	Autoregressive Distributed Lag approach	Private consumption, relative prices, trade liberalisation, investment and exports expenditure
Yaprakli and Kaplan (2015)	Re-examining of the Turkish Crude Oil Import Demand with Multi-Structural Breaks Analysis in the Long Run Period	Turkey	Income and the price of crude oil	Dynamic Ordinary Least Squares	Income and the price of crude oil

5.3.2 The determinants of import demand in developed countries

Abbott and Seddighi (1996) examined the long-run effects of macroeconomic components on aggregate import demand for the United Kingdom. The estimated model included macroeconomic components (private and public consumption expenditure, expenditure on investment goods including gross domestic fixed capital formation and stock building and expenditure on exports) and relative prices. To estimate this, the study employed the Johansen multivariate co-integration approach and annual data covering the period from 1992 to 1990. The results suggested that both the expenditure components and relative prices are significant determinants of import demand. Furthermore, the results revealed that the level of importance of the different components of income differ, and private expenditure appeared to be the most significant factor.

For Greece, Sinha and Sinha (2000) carried out a similar study using the Johansen's co-integration method and a time series data covering the period from 1951 to 1992. The estimated model included relative prices and income as independent variables. The results showed that the demand for imports is highly income elastic and price inelastic in the long run.

Masih and Masih (2000) used the Johansen's multivariate co-integration procedure and quarterly time series data for the period from 1974:1 to 1989:2 to re-assess long-run elasticities of Japanese import demand. The study expressed the import demand as a function of relative prices and real income, and the results show that there is a long-run relationship between import demand and these variables, and thus they share a long-run equilibrium relationship. The study concluded that, over the long run, both relative prices and income have are major determinants of import demand.

Chinn (2003) tested the existence of a relationship between import demand and its determinants for the United States of America over the period 1975 to 2001 using the Johansen's co-integration approach. The results showed that, exchange rate and real income have no significant impact on import demand.

Using the bounds test approach, Bahamani and Kara (2003) estimated the import demand function for nine industrialised countries, that is, Australia, Austria, Canada, France, Germany, Denmark, Italy, Japan and the USA. The study covered the period 1973Q1 to 1998Q2. It was found that, in the long run, income has a significant influence on imports.

For France, Italy, the Netherlands, the UK, and the US, Tsionas and Christopoulos (2004) estimated the import demand function over the period 1960 to 1999. The study specified import demand as a function of relative prices and income. To estimate this, Ordinary Least Squares and Johansen's co-integration approach were used, and the results confirmed significant effects of relative prices and incomes, and short-run effects from temporary shocks.

Alexiou (2010) examined the effects of government expenditure on import demand for Greece using the bounds test on time series data covering the period 1970 to 2007. The results suggest that public expenditure has a positive effect on imports. Table 5.2 provides a summary of the empirical literature on the determinants of import demand in developed countries. The table is organised according to the classification of developed countries provided in UNCTADSTAT (2019).

Table 5.2: Summary of the reviewed empirical literature on the determinants of import demand in developed countries

Author(s) and Date	Title	Country	Tested Variables	Methodology	Major determinants
Abbott and Seddighi (1996)	Aggregate Imports and Expenditure Components in the UK: An Empirical Analysis	United Kingdom	Export, government consumption, investment and private consumption and relative prices	Johansen multivariate co-integration approach	Disaggregated expenditure components and relative prices
Sinha and Sinha (2000)	An Aggregate Import Demand Function for Greece	Greece	Relative prices and income	Johansen's co-integration method	Relative prices and income
Masih and Masih (2000)	A Re-assessment of Long-run Elasticities of Japanese Import Demand	Japan	Relative prices and income	Johansen's multivariate co-integration	Relative prices and income
Chinn (2003)	Doomed to Deficits? Aggregate U.S. Trade Flows Re-examined	United States of America	Exchange rate and real income	Johansen co-integration approach	Exchange rate and real income have no significant impact on import demand
Bahamani and Kara (2003)	Relative Responsiveness of Trade Flows to a Change in Prices and Exchange rate	Australia, Austria, Canada, France, Germany, Denmark, Italy, Japan and the USA.	Income and relative prices	Bounds Testing Approach	Income (in the long run)
Tsionas and Christopoulos (2004)	International Evidence on Import Demand	France, Italy, the Netherlands, the UK, and the US	Income and relative prices	Ordinary least Squares and Johansen's co-integration approach	Relative prices, incomes, and short-run effects from temporary shocks
Arize and Osang (2007)	Foreign Exchange Reserves and Import Demand: Evidence from Latin America	Latin America	Foreign exchange reserves, income and relative prices	Johansen's co-integration approach	Foreign exchange reserves, income and relative prices

Alexiou (2010)	An Empirical Note on Government Expenditure and Imports: an ARDL Co-integration Investigation	Greece	Public expenditure	Bounds Testing Approach	The results suggest that public expenditure have a positive effect on imports positively

5.4 Conclusion

This chapter discussed both the theoretical and empirical literature on the determinants of import demand. The reviewed theories of import demand include the imperfect substitution, new Keynesian, neo-classical, monetarist, and production theories. The theories, however, do not give us certainty in terms of the determinants of a country's import demand. The empirical evidence also provides no consensus, as the findings from the different studies vary. On average, the findings in cases of developing and developed countries, and the combination of the two groups of countries, show that disaggregate income and relative prices are the major determinants of import demand. The variances in the results can be attributed to the different methodologies used, study periods, proxies used to measure the explanatory variables, and the characteristics of the different countries studied. The main gap in the literature is that most of the studies only focused on aggregate import demand, and very few have examined the key determinants of both aggregate and disaggregate import demand.

CHAPTER 6

EMPIRICAL MODEL SPECIFICATION AND ESTIMATION TECHNIQUES

6.1 Introduction

This chapter provides details on the empirical model to be estimated, and the estimation techniques to be used in the study. The description of the model is guided by the objectives of the study, as specified in chapter one, and the theoretical and empirical literature reviewed in Chapter Five. Inclusive of this introduction, this chapter is divided into six sections. Section 6.2, which follows, specifies the empirical model. Section 6.3 presents the estimation techniques used, while section 6.4 presents the diagnostic tests. Section 6.5 provides the definition of variables and gives an account to data sources and period used. Lastly, Section 6.6 concludes the chapter.

6.2 Model specification and theoretical underpinnings

The analytical framework for import demand is mainly underpinned by three theories, namely, the imperfect substitution theory, Neo-classical theory, and Keynesian theories. As detailed in Chapter Five, these theories together prescribe the national income and relative import price as major determining factors of import demand. Under the imperfect substitution theory, the assumption underlying the prescribed influence of income and prices on import demand is that imports and domestic products are not perfect substitutes (Abrishami and Mehrara, 2002). This is in line with the argument in conventional microeconomic theory, where a rational consumer is assumed to maximise utility subject to a budget constraint (Barker, 1987). The importance of relative import price for import demand is underscored in the neo-classical theory (Bathalomew, 2010). Under this theory, there is no emphasis on the effects of income on imports, because, the theory assumes a fixed level of employment, and full and efficient employment of resources (Cakmak *et al.*, 2016). In contrast to the Neo-classical theory, the Keynesian theory assumes constant prices and variable income. It emphasises the importance of income for import demand (Bathalomew, 2010). The specification of the import demand model in these theories is in line with the traditional import demand model. According to Gafar (1988) and Tang (2002), the traditional model is given as follows:

$IMD_t = f(Y_t, P_t)$……. (6.1)

Where:

- IMD is the import demand,
- Y is the national income for the importing county,
- P represents relative import price.

In the traditional model, all other variables are sub-modelled within the national income and relative import price variables (Tang, 2003, and Hong, 1999, cited in Bathalomew, 2010). However, modern literature presents a different approach, where additional explanatory variables are included (Bathalomew, 2010; Narayan and Narayan, 2005; Dutt and Ahmend, 2004; Anaman *et al*. 2001; Modeste, 2011; Omoke, 2012). In this study, the additional variables include investment spending, exports of goods and services, consumer spending, government spending, foreign exchange reserves and a dummy variable for trade liberalisation policy. Literature suggests that these variables have different patterns, and different import contents (Chani and Chaudhary, 2012). Also, a model that incorporates different components of GDP has better forecasting power than the standard import demand models (Narayan and Narayan, 2005).

The study estimates both the aggregate and disaggregate import demand functions. This is because, modelling only the aggregate demand function for imports can be misleading, as different types of imports may behave differently (Abrishami and Mehrara, 2002; Tennakoon, 2010). The disaggregate import demand function in this study is classified into three groups, namely, import demand of consumer goods, import demand of intermediate goods, and import demand of capital goods. Following Bartholomew (2010), Narayan and Narayan (2005), Modeste (2011), Dutt and Ahmend (2004) and Anaman *et al*. (2001), the four models are specified as follows:

Model 1: Determinants of Aggregate Import Demand for Goods and Services

AIMD = f (FR, INV, EX, RP, GE, CE, TL)……. (6.2)

Model 2: Determinants of Import Demand for Consumer Goods and Services

IMDCON = f (FR INV EX RP GE CE TL) ……..……. (6.3)

Model 3: Determinants of Import Demand for Intermediate Goods and Services

IMDINT = f (FR INV EX RP GE CE TL) ….……..…….. (6.4)

Model 4: Determinants of Import Demand for Capital Goods and Services

IMDCP = f (FR INV EX RP GE CE TL) …….... (6.5)

Where:

- AIMD is the aggregate import demand
- IMDCON is the import demand for consumer goods
- IMDINT is the import demand for intermediate goods
- IMDCP is the import demand for capital goods
- INV is the investment expenditure
- CE is consumer spending
- GE is government spending
- EX is the export of goods and services
- RP is the relative import price
- FR is the foreign exchange reserves
- TL represents trade liberalisation policy dummy

The importance of relative import price (RP) in determining import demand is justified in both empirical and theoretical literature (Sinha, 1997; Egwakhide, 1999; Rijal *et al.* 2000). In literature, this variable is measured by looking at import price as a share of domestic price (Rijal *et al.* 2000; Mah, 2000). However, because the data for this variable is not readily available, the study follows Anaman and Buffong (2001), and uses real effective exchange rate as a proxy for relative import price. The coefficient of this variable is expected to be negative, as an increase in exchange rate would lead to a decrease in import demand as it implies that importing has become relatively more expensive for the importing country. The responsiveness of import demand to changes in exchange rates also depends on the type of goods that the country imports. For example, studies such as Ziramba (2008) found that import demand for capital goods is less responsive to changes in relative price, as capital goods are important for economic growth.

Foreign exchange reserves (FR) refer to foreign currency deposits held by a country's central bank. Since it is the only medium of exchange on the international market, it acts as a constraint for the developing countries to import necessary goods and services (Sultan, 2011). Therefore, this variable is expected to be positively related to import demand, as an

Consumer spending (CE) and government spending (GE) are measured as total private spending and total public spending, respectively. These variables have been used in studies such as Omoke (2012) and Budha (2014), among others. In both theory and empirical studies, these variables are found to be positively related to import demand.

Investment spending (INV) is measured through gross domestic fixed capital formation. This variable has been used in empirical studies such as Bathalomew (2010) and Modeste (2011), and has been found to have a significant and positive effect on import demand. The coefficient of this variable is expected to be positive.

Export of goods and services (EX) is determined by measuring spending on exports. Literature suggests this variable as an important determinant of import demand (Modeste, 2011; Budha, 2014). Based on literature, this variable is expected to have a positive and significant effect on import demand.

An increase in consumer spending, government spending, investment spending and export of goods and services is normally associated with an increase in income, as these variables are components of gross domestic product. It is therefore not startling for these variables to have a negative effect on import demand as an increase in income may result in an increase in local production, production of import substitutes, and reduced import demand.

Trade liberalisation is measured through a dummy, where '1' represents a period where there was an import policy change, while '0' is used where there was no policy change. The relationship between import demand and trade liberalisation policy change has been tested by many, and it has been found that the elimination of trade policy distortion has a positive effect of import demand (Hoque and Yusop, 2010). The coefficient of trade liberalisation policy is expected to be positive.

6.3 Estimation technique

6.3.1 Stationarity test

The ARDL bounds testing method can be applied regardless of the integration status of the series under examination as long as none of the series is integrated of order 2 or higher. Therefore, testing for unit root remains essential to ensure that this is not violated. Also, testing for unit root is important because non-stationary data leads to spurious regressions and misleading conclusions. As well, the stationarity or non-stationarity of a series can influence the behaviour and properties of the series and the use of non-stationary series violates the standard assumption of asymptotic analysis (Brooks, 2002). A stationary time series is characterised by stable probability distributions over time, a constant mean, a constant variance and the auto-covariance for each given lag (Russo *et al*., 2007; Wooldridge, 2009). To test for stationarity, the study employs three techniques, namely: the Dickey Fuller Generalised Square (DF-GLS), the Phillips- Parron test and the Kwiatkowski, Phillips, Schmidt and Shin (KPSS) test.

6.3.1.1 Dickey Fuller Generalised Square (DF-GLS) test

The Augmented Dickey Fuller (ADF) test is widely used in applied economic research. However, it has received a lot of criticism centred around its low power against an integration of order zero, i.e. I(0) that is close to being an integration of order one, (I(1)) (Zivot and Wang, 2007). To address this, Elliot, Rothenberg and Stock (ERS) (1996) proposed the Dicky Fuller-Generalised Least Squares (DF-GLS), as a modified version of the ADF method. The new method generally has better power characteristics than ADF, and uses a de-trended series (Pesaran, 2015). To define the de-trended data, the following ADF regression is specified:

$$Y_t^r = y_t - \pi' D_t \quad \text{..... (6.10)}$$

Where:

- Y_t is the de-trended series under examination,
- π is the unknown parameters
- D is the vector of deterministic terms
- t is the time drift

When D = (1, t), the asymptotic distribution of the DF-GLS test is different from the ADF test (Zivot and Wang, 2007; Pandit, 2015). Following this, the normal ADF regression is estimated with the residuals of the de-trended GLS series and without the deterministic terms. The regression is given as follows:

$$y_t^r = \alpha_0\, y_{t-1}^r + \sum_{i=1}^{k} \beta_i\, \Delta y_{t-i}^r + u_t \quad \text{..... (6.11)}$$

Where:

- $Y_t{}^r$ is the de-trended series,
- t is the time drift,
- β_i is the coefficient of the lagged first differences term,
- α is the coefficient of the variable being tested,
- Δ is the difference operator,
- u_t is the distributed error term.

The null hypothesis under test is as follow:

H_0: $\alpha = 0$

The alternative hypothesis is:

H_1: $\alpha < 0$

6.3.1.2 Phillips Perron (PP) test

The Phillips Perron (PP) stationarity test, proposed by Phillips and Perron (1988) provides a semi-parametric test of unit root hypothesis for a single time series (Pessaran, 2016). It differs from the ADF and DF-GLS, in that it corrects for the effects of serial correlation using non-parametric factors of a long-run variance of the error process (Castro, 2012). The PP test does not require the specification of a lag length for the test regressions, and is robust to general forms of heteroskedasticity in the error term u_t (Zivot and Wang, 2003). This method suffers from most of the same limitations as the ADF. The common criticism is the low power if the process is stationary but with a root close to the non-stationary boundary,

and size distortions (Brooks, 2002). To correct for this, Perron and Ng (1996) modified the test statistics to improve the size properties and meet the required optimal power. The regression without trend but with intercept is given by:

$$\Delta y_t = \alpha_0 + \beta y_{t-1} + e_t \quad \text{(6.12)}$$

Where:

- y_t is the series under consideration,
- β is the coefficient of y,
- *e* is the error term.

The null hypothesis (H_0: $\alpha_0 = 0$) of the PP tests is to detect the presence of a unit root in the autoregressive model. This is tested against the alternative hypothesis (H_0: $\alpha_0 \neq 0$) that the variables under examination are stationary.

6.3.1.3 The Kwiatkowski, Phillips, Schmidt, and Shin (KPSS) Test

The KPSS test proposed by Kwiatkowski, Phillips, Schmidt, and Shin (1992) is also employed in the study to complement the PP and DF-GLS tests. Unlike the other two methods, the KPSS hypothesizes a trend stationarity as a null and the presence of unit roots as an alternative hypothesis (Pfaff, 2008; Diabate, 2017). It is specified as the sum of a deterministic trend, random walk, and stationary error (Kwiatkowski *et al.*, 1992). The model for the KPSS takes the following form:

$$y_t = \xi_t + r_t + \varepsilon_t \quad \text{(6.13)}$$

$$r_t = r_{t-1} + u_t \quad \text{(6.14)}$$

$$u_t = u_{t-1} + u_t, \qquad u_t \sim iid(0, \sigma_u^2) \quad \text{(6.15)}$$

Where y_t the observation of variables of interest is, r_t is a random walk, t is the deterministic term and ε_t is the error term. The initial value r_0 is treated as a fixed term and used as an intercept (Kwiatkowski *et al.*, 1992). The tested stationarity null hypothesis is that $\sigma_u^2 = 0$. If $\xi = 0$, then the model is in terms of a constant only a deterministic regressor and y_t is stationary at levels (Pfaff, 2008). Under the null hypothesis the error term is assumed to be stationary, and y_t is trend-stationary (Kwiatkowski *et al.*, 1992; Pfaff, 2008). The null hypothesis is based on a one-sided Lagrange Multiplier (LM) statistic, which is used under the assumption that u_t is normal and the error term is independent and identically distributed

(Zivot and Wang, 2006). Kwiatkowski *et al.* (1992) specify the Lagrange Multiplier (LM) statistic as:

$$LM = \sum_t S(t)^2 / \sigma_\varepsilon^2 \qquad (6.16)$$

Where,

$$S_t = \sum_{i=1}^{t} e_t, \; t=1, 2... T \qquad (6.17)$$

and

$$\sigma_\varepsilon^2 = \frac{\sum_t e_t^2}{T} \qquad (6.18)$$

Where σ_ε^2 is the estimate of the error variance, S_t is the partial sum of the residual e_t from the regression of y_t on the deterministic term (Kwiatkowski *et.al.*, 1992).

6.3.2 The Autoregressive Distributed Lag Bounds Testing Approach

To empirically examine the co-integration between import demand and its determinants, the study employed the autoregressive distributed lag bounds testing approach. This approach is based on the error correction version of the autoregressive distributed lag (ARDL) model (Shareef and Tran, 2007). It is preferred over the other commonly used co-integration techniques such as the Engle and Granger (1978) two staged method and the Johansen and Juselius (1990) co-integration because:

- The ARDL model can be applied irrespective of the integration status of the underlying regressor i.e. irrespective of whether the variable is integrated of order I (0) or I (1) (Pesaran, *et.al,* 2001). This allows statistical inference on long-run estimates that are not possible under other commonly used techniques (Harris and Sollis, 2003)
- It is applicable on variables with different optimal lags and for small samples (Ozturk and Acaravci, 2011; Mah, 2000, cited in Tang, 2004)
- The model generally provides unbiased estimates of the long-run model and valid t-statistics even when some of the variables are endogenous (Harris and Sollis, 2003)
- It employs only a single reduced form equation, while the conventional co-integration procedures estimate the long-run relationship within a context of system equations (Ozturk and Acaravci, 2011).

The ARDL bounds testing method comprises two steps (Pasaran, 2001). The first step is to estimate the unrestricted error correction model (UECM) to test the evidence of a long-run relationship between the variables under review. The estimated regression model is specified as:

Model 1: Determinants of Aggregate Import Demand Function

$$\Delta LAIMD_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i} \Delta LAIMD_{t-i} + \sum_{i=0}^{n} \beta_{2i} \Delta LFR_{t-i} + \sum_{i=0}^{n} \beta_{3i} \Delta LINV_{t-i} + \sum_{i=0}^{n} \beta_{4i} \Delta LEX_{t-i} + \sum_{i=0}^{n} \beta_{5i} \Delta LCE + \sum_{i=0}^{n} \beta_{6i} \Delta LGE_{t-i} + \sum_{i=0}^{n} \beta_{7i} \Delta LRP_{t-i} + \sum_{i=0}^{n} \beta_{8i} \Delta TL_{t-i} + \alpha_1 LAIMD_{t-1} + \alpha_2 LFR_{t-1} + \alpha_3 LINV_{t-1} + \alpha_4 LEX_{t-1} + \alpha_5 LCE_{t-1} + \alpha_6 LGE_{t-1} + \alpha_7 LRP_{t-1} + \alpha_8 TL_{t-1} + u_t \ldots \ldots (6.19)$$

Model 2: Determinants of Import Demand of Consumption Goods and Services

$$\Delta LIMDCON_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i} \Delta\, LIMDCON_{t-i} + \sum_{i=0}^{n} \beta_{2i} \Delta LFR_{t-i} + \sum_{i=0}^{n} \beta_{3i} \Delta LINV_{t-i} + \sum_{i=0}^{n} \beta_{4i} \Delta lEX_{t-i} + \sum_{i=0}^{n} \beta_{5i} \Delta LCE + \sum_{i=0}^{n} \beta_{6i} \Delta LGE_{t-i} + \sum_{i=0}^{n} \beta_{7i} \Delta LRP_{t-i} + \sum_{i=0}^{n} \beta_{8i} \Delta TL_{t-i} + \alpha_1 LIMDCON_{t-1} + \alpha_2 LFR_{t-1} + \alpha_3 LINV_{t-1} + \alpha_4 LEX_{t-1} + \alpha_5 LCE_{t-1} + \alpha_6 LGE_{t-1} + \alpha_7 LRP_{t-1} + \alpha_8 TL_{t-1} + u_t \ldots \ldots (6.20)$$

Model 3: Determinants of Import Demand of Intermediate Goods and Services

$$\Delta LIMDINT_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i} \Delta\, LIMDINT_{t-i} + \sum_{i=0}^{n} \beta_{2i} \Delta LFR_{t-i} + \sum_{i=0}^{n} \beta_{3i} \Delta LINV_{t-i} + \sum_{i=0}^{n} \beta_{4i} \Delta lEX_{t-i} + \sum_{i=0}^{n} \beta_{5i} \Delta LCE + \sum_{i=0}^{n} \beta_{6i} \Delta LGE_{t-i} + \sum_{i=0}^{n} \beta_{7i} \Delta LRP_{t-i} + \sum_{i=0}^{n} \beta_{8i} \Delta TL_{t-i} + \alpha_1 LIMDINT_{t-1} + \alpha_2 LFR_{t-1} + \alpha_3 LINV_{t-1} + \alpha_4 LEX_{t-1} + \alpha_5 LCE_{t-1} + \alpha_6 LGE_{t-1} + \alpha_7 LRP_{t-1} + \alpha_8 TL_{t-1} + u_t \quad (6.21)$$

Model 4: Determinants of Import Demand of Capital Goods and Services

$$\Delta LIMDCP_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i} \Delta\, LIMDCP_{t-i} + \sum_{i=0}^{n} \beta_{2i} \Delta LFR_{t-i} + \sum_{i=0}^{n} \beta_{3i} \Delta LINV_{t-i} + \sum_{i=0}^{n} \beta_{4i} \Delta lEX_{t-i} + \sum_{i=0}^{n} \beta_{5i} \Delta LCE + \sum_{i=0}^{n} \beta_{6i} \Delta LGE_{t-i} + \sum_{i=0}^{n} \beta_{7i} \Delta LRP_{t-i} + \sum_{i=0}^{n} \beta_{8i} \Delta TL_{t-i} + \alpha_1 LIMDCP_{t-1} + \alpha_2 LFR_{t-1} + \alpha_3 LINV_{t-1} + \alpha_4 LEX_{t-1} + \alpha_5 LCE_{t-1} + \alpha_6 LGE_{t-1} + \alpha_7 LRP_{t-1} + \alpha_8 TL_{t-1} + u_t \quad (6.22)$$

Where:

- All variables are as defined in Section 6.2,
- ECM is the error correction term,
- Δ is the first difference,
- *L* is the logarithm,
- i is the number of lags,
- u_t is the white noise error term,
- α_1 α_2 α_3 α_4 α_5 α_6 α_7 and α_8 are the long-run coefficients,

- $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$, and β_8 are the short-run coefficients.

The second step of the bounds test is to compute the F-statistic based on the null hypothesis of no co-integration (Pesaran, 2016). The null hypothesis is specified as:

H_0: $\alpha_1 = \alpha_2 = \alpha_3 = \alpha_4 = \alpha_5 = \alpha_6 = \alpha_7 = \alpha_8 = 0$

Against the alternative hypothesis:

H_A: $\alpha_1 \neq \alpha_2 \neq \alpha_3 \neq \alpha_4 \neq \alpha_5 \neq \alpha_6 \neq \alpha_7 \neq \alpha_8 \neq 0$

Under the null hypothesis, the asymptotic distribution of the F- statistic is non-standard. For all specified regressors, the co-integration test is provided by two critical bounds, namely, the upper bound and the lower bound (Evzen and Cerny *et al*., 2015). This is based on the assumption that all the regressors are, on the one hand purely I (1) and, on the other, purely I (0) (Pesaran, 2001). The upper bound applies when all the variables are integrated of order I (1) and the lower bound applies when all variables are integrated of order I (0). According to Pesaran (2001), if the calculated/computed F-statistic falls outside the critical value bounds, a conclusive inference can be drawn if the underlying regressors are co-integrated of order I(0) or I(1). However, if the F-statistic falls inside these bounds, an inference is inconclusive and the order of the integration for the underlying variables needs to be known before conclusive inferences can be made. This is also the reason why the study conducts a test for order of integration and stationarity regardless of the assumption that the bounds co-integration test can be applied irrespective of the stationarity or integration status of the of the underlying regressors. If a long-run relationship exists between the variables under estimation, the second step is to run the regressions of the specified models to obtain the long-run and error-correction estimated. The ECM of models are specified as follows:

ECM for Model 1: Determinants of aggregate import demand of goods and services

$$\Delta LAIMD_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i} \Delta\, LAIMD_{t-i} + \sum_{i=0}^{n} \beta_{2i} \Delta LFR_{t-i} + \sum_{i=0}^{n} \beta_{3i} \Delta LINV_{t-i} + \sum_{i=0}^{n} \beta_{4i} \Delta LEX_{t-i} + \sum_{i=0}^{n} \beta_{5i} \Delta LCE_{t-i} + \sum_{i=0}^{n} \beta_{6i} \Delta LFR_{t-i} + \sum_{i=0}^{n} \beta_{7i} \Delta LRP_{t-i} + \sum_{i=0}^{n} \beta_{8i} \Delta LTL_{t-i} + \xi_1 ECM_{t-1} + u_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (6.23)$$

ECM for Model 2: Determinants of Import Demand of Consumer goods and services

$$\Delta LIMDCON_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i} \Delta\, LIMDCON_{t-i} + \sum_{i=0}^{n} \beta_{2i} \Delta LFR_{t-i} + \sum_{i=0}^{n} \beta_{3i} \Delta LINV_{t-i} + \sum_{i=0}^{n} \beta_{4i} \Delta LEX_{t-i} + \sum_{i=0}^{n} \beta_{5i} \Delta LCE_{t-i} + \sum_{i=0}^{n} \beta_{6i} \Delta LFR_{t-i} + \sum_{i=0}^{n} \beta_{7i} \Delta LRP_{t-i} + \sum_{i=0}^{n} \beta_{8i} \Delta LTL_{t-i} + \xi_1 ECM_{t-1} + u_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (6.24)$$

ECM for Model 3: Determinants of Import Demand of Intermediate Goods and Services

$$\Delta LIMDINT_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i} \Delta\, LIMDINT_{t-i} + \sum_{i=0}^{n} \beta_{2i} \Delta LFR_{t-i} + \sum_{i=0}^{n} \beta_{3i} \Delta LINV_{t-i} + \sum_{i=0}^{n} \beta_{4i} \Delta LEX_{t-i} + \sum_{i=0}^{n} \beta_{5i} \Delta LCE_{t-i} + \sum_{i=0}^{n} \beta_{6i} \Delta LFR_{t-i} + \sum_{i=0}^{n} \beta_{7i} \Delta LRP_{t-i} + \sum_{i=0}^{n} \beta_{8i} \Delta LTL_{t-i} + \xi_1 ECM_{t-1} + u_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (6.25)$$

ECM for Model 4: Determinants of Import Demand of Capital Goods and Services

$$\Delta LIMDCP_t = \beta_0 + \sum_{i=0}^{n} \beta_{1i} \Delta\, LIMDCP_{t-i} + \sum_{i=0}^{n} \beta_{2i} \Delta LFR_{t-i} + \sum_{i=0}^{n} \beta_{3i} \Delta LINV_{t-i} + \sum_{i=0}^{n} \beta_{4i} \Delta LEX_{t-i} + \sum_{i=0}^{n} \beta_{5i} \Delta LCE_{t-i} + \sum_{i=0}^{n} \beta_{6i} \Delta LFR_{t-i} + \sum_{i=0}^{n} \beta_{7i} \Delta LRP_{t-i} + \sum_{i=0}^{n} \beta_{8i} \Delta LTL_{t-i} + \xi_1 ECM_{t-1} + u_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (6.26)$$

Where:

- ECM is the error correction term,
- u_t is the coefficient of the error correction term.

6.4 Diagnostic tests

Diagnostic tests in applied econometrics are used to examine the strength and weaknesses of estimation models. This is done by testing the presence of internal defects such as serial correlation, normality, misspecification and heteroscedasticity associated with the model (Beggs, 1988).

6.4.1 Serial Correlation

The classical linear regression model (CLRM) assumes that the variances and correlation between different disturbances are equal to zero. This implies that the error terms are independently distributed. Violation of this assumption suggests the presence of serial correlation which also implies that the error terms are not independently distributed. The serial correlation can be caused by omission of a relevant variable, wrong functional forms and systematic errors in measurement. The informal test for serial correlation is performed through graphical analysis while the formal test is performed through formal statistical tests such as Durbin-Watson test and Glesjer-Godfrey LM test.

6.4.2 Misspecification

Testing for normality includes testing for the omission of relevant variables (under-fitting a model) and inclusion of an irrelevant variables (over-fitting a model), measurement errors and specification of a wrong functional form. The omission of a relevant variable is where by a relevant explanatory variable is excluded in a model, while the inclusion of an irrelevant variable is where by the model includes an explanatory variable that is not related to the dependant variable. Under-fitting a model may result in biases and inconsistencies that are explained by the correlation between the omitted variable and included variable in the model (Gujarati, 1995; Brenner, 1977). Also, if an important variable is omitted, the confidence interval and hypothesis testing procedure are likely to produce misleading conclusions about the statistical significance of the estimated parameters (Gujarati, 1995). With the over-fitted model, the confidence interval and hypothesis-testing procedures remain valid, and error variance is correctly estimated. However, the estimated coefficients are generally inefficient (Gujarati, 1995). The measurement error occurs as a result of the use of incorrect measures

for a true variable (Hyslop and Imbens, 2001). These errors can be detected by observing the residuals of the regression. The commonly used formal test is the Jerque-Bera's test of 1980, which detects the skewness and kurtosis (Pesaran, 2015).

6.4.3 Heteroskedasticity

A heteroskedastic model is characterised by unequal variances of the error terms, which violates the assumption of a constant variances of the error terms. The presence of heteroskedasticity can be detected through informal and formal methods. The informal test is done through observing different graphs. For formal tests, the Goldfeld-Quandt test and White's test are employed. The Goldfeld-Quandt test is based on the ratio of variance. It specifies that if the error variances are equal across all observations, then the variance of one part of the sample will be the same as the variance for another part of the sample. The White's test is the most widely used technique to test for heteroskedasticity. It assumes that, if disturbances are heteroskedastic, then the squared errors are on average unevenly constant (Murray, 2006).

6.5 Data sources and definition of variables

For the aggregate import demand function, the study employs annual time series data covering the period 1985-2015. Data sources for the employed variables are presented in table 1.

Table 6.1: Data sources

Employed variable	Measurements	Data Source
Import demand	Value of goods and services imported from the world (measured in US$)	United Nations Conference on Trade and Development (UNCTAD) database
Foreign exchange reserves	Total foreign exchange reserves measured in US$)	World bank
Investment Expenditure	Gross capital formation (measured in US$)	United Nations Conference on Trade and Development (UNCTAD) database

Consumer Spending	Total Consumer spending (measured in US$)	United Nations Conference on Trade and Development (UNCTAD) database
Government Spending	Total Government spending (measured in US$)	United Nations Conference on Trade and Development (UNCTAD) database
Exports	Total value of exports of goods and services	United Nations Conference on Trade and Development (UNCTAD) database
Trade liberalisation dummy	Dummy for trade policy changes	United Nations Conference on Trade and Development (UNCTAD) database
Relative Import price	Real Effective Exchange rate	United Nations Conference on Trade and Development (UNCTAD) database and World Bank Database
Import demand for consumer goods	Value of consumer goods imported from the world (measured in US$)	Quantec easy data and world Bank
Import demand for intermediate goods	Value of intermediate goods imported from the world (measured in US$)	Quantec easy data and World Bank
Import demand for capital goods	Value of capital goods imported from the world (measured in US$)	Quantec easy data and World Bank

6.6 Conclusion

This chapter has specified the empirical models and has provided details on the estimation techniques used to test the stationarity of the variables included in the model, and the co-integration between the variables under review. It presented the technique used to examine direction of the relationship between import demand and its determinants. The chapter presented details on diagnostic tests. The variables, data sources and study period used in the study have also discussed in the foregoing chapter.

CHAPTER 7

EMPIRICAL ANALYSIS AND RESULTS

7.1 Introduction

This chapter provides an econometric estimation and empirical results on the import demand models specified in Chapter Six for South Africa, Ghana, and Tanzania. The models are estimated using the ARDL bounds testing approach. The chapter is divided into four sections. Section 7.2 presents the unit root test results. Section 7.3 presents the empirical results from the Autoregressive Distributed Lag Bounds testing approach. This section is divided into four subsections covering the ARDL estimation results for Models 1-4. Section 7.4 concludes the chapter. In all the four models, and for all the three countries, import demand is used as a dependent variable, while foreign exchange reserves, exports of goods and services, relative import price, investment spending, consumer spending, government spending and a trade liberalisation policy dummy are employed as explanatory variables.

7.2 Unit Root testing for dependent and explanatory variables in Models 1 - 4

Although the ARDL bounds test does not require pre-testing of the order of integration, it is necessary to test for unit root in order to ensure that none of the variables is integrated of order I(2) or higher. To empirically test for stationarity and to ascertain the order of integration, the study employs Dickey Fuller Generalised Square (DF-GLS), Phillips Perron (PP), and the Kwiatkowski, Phillips, Schmidt and Shin (KPSS) tests. These tests are carried out for all the three countries. Akaike's information criterion (AIC) and Schwarz Information Criterion (SIC) are used to determine the optimum lag length for all the variables. The unit root tests are carried out with two specifications, that is, intercept with no trend and intercept with trend. The unit root test results from the three techniques and for the three countries are presented in Table 7.1.

Table 7.1: Unit Root Tests

Dickey Fuller Generalised Square												
Variable	**South Africa**				**Ghana**				**Tanzania**			
	Stationarity in levels		**Stationarity after first differencing**		**Stationarity at levels**		**Stationarity after first differencing**		**Stationarity at levels**		**Stationarity after first differencing**	
	With no Trend	**With Trend**	**With no Trend**	**With Trend**	**With no Trend**	**With Trend**	**With no Trend**	**With Trend**	**With no Trend**	**With Trend**	**With no Trend**	**With Trend**
LFR	-1.306	-2.154	-7.438**	-7.448**	-0.762	-1.693	-3.579**	-3.865**	-2.732**	-5.907**	_	_
LINV	0.181	-1.515	-2.660**	-3.738**	-2.388	-4.428**	-6.729**	_	0.481	-1.698	-4.329**	-4.348**
LEX	-0.454	-2.576	-4.103**	-5.538**	0.245	-2.700	-4.977**	-5.530**	0.026	-3.552	-6.572**	-6.949**
LCE	1.269	-3.486	-3.481**	-3.598 **	0.156	-1.724	2.668**	-3.850**	-0.704	-1.991	-3.293**	-3.337**
LGE	1.553	-1.113	-4.677**	-4.774**	-2.6813**	-2.907	-	-5.173**	1.818	-1.741	-2.365**	-2.776**
LRP	-1.12	-2.737	-4.819**	-4.957**	0.493	-1.729	-4.149**	-4.609**	-0.425	-1.055	-3.411**	-3.324**
LAIMD	0.053	-2.828	-3.714**	-4.412**	-0.229	-3.311	-5.521**	-5.529**	-0.068	-2.792	-4.830**	-5.247**
LIMDINT	0.178	-2.23	-3.783**	-4.598**	-0.021	-1.034	-4.869**	-5.498**	-1.899	-4.542**	-5.322**	_
LIMDCON	0.191	-1.343	-4.847**	-5.283**	0.168	-3.966	-6.745**	-7.147**	-0.209	-1.714	-3.109**	-3.256**
LIMDCP	-1.018	-2.509	-4.817**	-5.436**	0.384	-2.834	-5.676**	-6.024**	-1.107	-3.016	-4.716**	-4.860**
Phillips-Perron												
Variable	**South Africa**				**Ghana**				**Tanzania**			
	Stationarity at levels		**Stationarity after first differencing**		**Stationarity at levels**		**Stationarity after first differencing**		**Stationarity at levels**		**Stationarity after first differencing**	
	With no Trend	**With Trend**	**With no Trend**	**With Trend**	**With no Trend**	**With Trend**	**With no Trend**	**With Trend**	**With no Trend**	**With Trend**	**With no Trend**	**With Trend**
LFR	-1.420	-2.157	-7.143**	-7.532**	-3.545**	-2.107	_	-5.185**	-5.884	-11.089**	_	_
LINV	0 .354	-3.258	-5.502**	-5.211**	-2.633	-4.316**	-12.629**	_	-0.837	-1.797	-4.097**	-4.070**
LEX	-0.757	-2.529	-8.157**	-13.737**	-0.847	-2.453	-8.127**	-8.230**	-2.610	-4.582**	-5.331**	_
LCE	0.028	-1.705	-3.411**	-3.266**	-3.905**	-7.182**	_	_	-1.332	-1.790	-2.923**	-2.977
LGE	0.143	-1.300	-4.811**	-4.668**	-1.878	-2.1067	-6.071**	-5.919**	0.799	-1.147	-2.913**	-3.253
LRP	-1.065	-2.118	-5.446**	-5.356**	0.551	-2.121	-7.546**	-10.927**	-4.843**	-4.326**	_	_
LAIMD	-0.716	-1.856	-6.074**	-6.892**	-0.382	-2.838	-8.303**	-8.178**	-1.527	-2.334	-4.666**	-4.934**

LIMDINT	-2.614	-1.077	-5.291**	-6.861**	-0.261	-0.696	-5.041**	-6.345**	-2.164	-4.135**	-8.653**	_
LIMDCON	-4.011**	-3.086	_	-5.732**	-1.316	-4.021**	-11.654**	_	-0.251	-2.498	-3.320**	-3.321**
LIMDCP	-4.010**	-3.086	_	-5.794**	-1.521	-2.373	-6.968**	-8.567**	-0.764	-2.909	-6.467**	-6.553**
Kwiatkowski, Phillips, Schmidt, and Shin												
Variable	**South Africa**				**Ghana**				**Tanzania**			
	Stationarity at levels		**Stationarity after first differencing**		**Stationarity at levels**		**Stationarity af1ter first differencing**		**Stationarity at levels**		**Stationarity after first differencing**	
	With no Trend	**With Trend**	**With no Trend**	**With Trend**	**With no Trend**	**With Trend**	**With no Trend**	**With Trend**	**With no Trend**	**With Trend**	**With no Trend**	**With Trend**
LFR	0.282**	0.143**	_	_	0.354**	0.146**	_	_	0.397	0.214**	0.381	_
LINV	0.369	0.144	0.260**	0.165**	0.371**	0.198	_	0.211**	0.403	0.146**	0.130**	_
LEX	0.384	0.148	0.180 **	0.165**	0.418**	0.175	_	0.189**	0.409	0.169**	0.307	_
LCE	0.387	0.138**	0.155**	_	0.424**	0.241	_	0.161**	0.408	0.173**	0.287**	_
LGE	0.386	0.141**	0.1429**	_	0.286**	0.147**	_	_	0.385	0.167**	0.161**	_
LRP	0.359 **	0.183**	_	_	0.276**	0.187**	_	_	0.413	0.250**	0.304	._
LAIMD	0.3948	0.210**	0.233**	_	0.403**	0.221	_	0.215**	0.406	0.157**	0.214	_
LIMDINT	0.316**	0.188 **	_	_	0.265	0.148	0.417**	_	0.379	0.203**	0.385	_
LIMDCON	0.396	0.1615**	0.295**	_	0.391**	0.184	_	0 .168**	0.340**	0.150**	_	_
LIMDCP	0.416	0.155	0.299**	0.146**	0.400**	0.147	_	0.170**	0.385**	0.179**	_	_

Note: **denotes significance at 5%

As presented in Table 7.1, the DF-GLS results show that, with the exception of the government spending (without trend) in Ghana, and import demand of intermediate goods(with trend) and foreign exchange reserves in Tanzania, the tested variables are not stationary in levels, and the null hypothesis of non-stationarity cannot be rejected. After first differencing, the results show that in all the three countries, the variables are stationary at 5% level of significance and are integrated of order I(1), and the null hypothesis is rejected.

When the Phillips Perron method is used, the results indicate that in the case of South Africa, import demand for consumer goods and import demand for capital goods are stationary in levels when a trend is not included. In Ghana, consumer spending is stationary in levels when a trend is included and when it is not included, while investment spending and import demand for consumer goods are only stationary when a trend is included. Foreign exchange reserves is found to be stationary in levels only when no trend is included. For Tanzania, the results show that relative import price is stationary in levels both when there is a trend and when there is no trend, while exports of goods and services and import demand for intermediate goods are stationary in levels when there is no trend. The rest of the variables are not stationary in levels, across the three countries. After first differencing, the results show that all variables that were not stationary in levels are stationary and are integrated of order I (1), and the null hypothesis can be rejected.

The results from the KPSS test show that in the case of South Africa, relative import price, foreign exchange reserves and import demand for intermediate goods are stationary in levels when there is a trend and when there is no trend, while consumer spending and import demand for consumer goods, aggregate import demand and government spending are only stationary in levels when a trend is included. In the case of Tanzania, foreign reserves, government spending and relative import price are stationary in levels when a trend is included and when no trend is included, while investment spending, consumer spending, exports of goods and services, import demand for consumer goods, aggregate import demand and import demand for capital goods are stationary only when no trend is included. In the case of Tanzania, import demand for consumer goods and import demand for capital goods are stationary in levels when a trend is included and when a trend is not included, while the rest of the variables are stationary only when a trend is included. Across the three countries, the rest of the variables appear to be stationary after first differencing and are

integrated of order one, i.e. I (1). The results from the three methods confirm that all the employed variables are stationary either in levels or after first differencing at 5% significance level, and none of the employed variables are integrated of order 2 or higher in all the three countries. Given these results, the study proceeds to perform co-integration test using the ARDL bounds test procedure.

7.3 The Autoregressive Distributed Lag Bounds Testing Approach

The first step of the ARDL bounds test is to examine the evidence of co-integration between the import demand variable and the explanatory variables. This is tested by computing the F-statistics for each of the three countries using the ordinary least squares (OLS) method. Pesaran (2001) provides two asymptotic critical values against which the F-test are compared. These critical values are for instances where all regressors are integrated of I(0) and where all regressors are integrated of I(1). They are used as bounds in cases where the regressors are a mixture of I(0) and I(1). The data series used for all the variables is in real terms for all the four models and across all the three countries. The results on the disaggregate import demand model (Model 1), import demand for consumer goods (Model 2), intermediate goods (Model 3) and capital goods (Model 4) are discussed in this subsection. This subsection discusses the co-integration, long-run and short-run ARDL results and diagnostic tests across all the four models and all the three countries. The diagnostic tests include Serial Correlation, Functional Form, Normality and Heteroscedasticity. These are tested using the LM test. The consistency of the models used is tested using the Cumulative Sum (CUSUM) test and the Cumulative Sum of squares (CUSUMSQ) developed by Brown et al. (1975) (cited in Bahmani-Oskooee and Wang, 2007).

7.3.1 Empirical Analysis of Aggregate Import Demand: Model 1

This subsection presents the bounds test results for co-integration, long-run and short-run results, and diagnostic test for Model 1 across all the three countries.

7.3.1.1 Bounds Test Results for Co-integration

The co-integration results for model 1 across the three countries are reported in Table 7.2.

Table 7.2: ARDL Bound Test Results for Co-integration

Country	**Estimated model**		**F-statistics**	**Inference**		
South Africa	AIMD= f(AIMD|FR INV EX CE GE RP TL)		6.533***	Co-integrated		
Ghana	AIMD= f(AIMD|FR INV EX CE GE RP TL)		8.629***	Co-integrated		
Tanzania	AIMD=f(AIMD|FR INV EX CE GE RP TL)		6.658***	Co-integrated		
Pesaran *et al*. (2001), p.300, Table CI(iii) Case III	**Asymptotic Critical Values**					
	1%		5%		10%	
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
	2.96	4.26	2.32	3.50	2.03	3.13

*Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

The results from the bounds test confirm co-integration between aggregate import demand and its determinants for all the three countries. As shown in Table 7.2, the F-statistics for South Africa, Ghana, and Tanzania are 6.533, 8.629, and 6.658, respectively. The computed F-tests for all the three countries are greater than the upper bound asymptotic critical values presented in Pesaran (2001) in Table CI (iii) case III at 1% significance levels. Having found this, the study proceeds to estimate the long-run and short-run relationships between aggregate import demand and its possible determinants with the appropriate lag length.

7.3.1.2 Estimation of Long-Run and Short-Run Coefficients

For all the three countries, the appropriate lag length is selected based on own selection. The own selection was preferred because it provided more statistically meaningful results than the other methods. The lag length for each country is indicated with the results for the long-run and short-run relationship presented in Tables 7.3 and 7.4.

Table 7.3: Estimation of Long-Run Elasticities

South Africa- Panel A: The Appropriate Lag Length is (2,2,0,1,0,1,0,2)				
Regressor	**Coefficient**	**Standard Error**	**T-Ratio**	**Probability**
LEX	-0.423	0.306	-1.383	0.190
LINV	0.752***	0.159	4.740	0.000
LCE	1.363**	0.465	2.932	0.012
LGE	-0.727**	0.278	-2.629	0.021
LFR	-0.079*	0.040	-1.981	0.069
LRP	0.399*	0.199	2.006	0.066
TL	0.275***	0.061	4.505	0.001
INPT	-1.174	1.563	-0.751	0.466
Ghana- Panel B: The Appropriate Lag Length is (1,1,1,1,1,0,0,0)				
LCE	0.693**	0.306	2.263	0.037
LEX	0.381**	0.176	2.170	0.044
LGE	0.057	0.249	0.228	0.823
LINV	0.054	0.167	0.325	0.749
LFR	-0.097**	0.044	-2.224	0.040
LRP_	-0.057	0.205	-0.279	0.783
TL	-0.110	0.104	-1.058	0.305
INPT	-0.750	5.630	-0.133	0.896
Tanzania- Panel C: The Appropriate Lag Length is (1,0,0,1,0,1,1,0)				
LCE	-0.435	0.426	-1.022	0.320
LEX	0.536***	0.151	3.557	0.002
LGE	-0.318	0.319	-0.998	0.331
LINV	1.157***	0.365	3.165	0.005
LFR	0.198	0.227	0.871	0.395
LRP	-0.227	0.397	-0.571	0.575
TL	-0.520*	0.280	-1.856	0.080
INPT	-1.032	3.539	-0.292	0.774

*Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

For South Africa, the long-run results are presented in Table 7.3, Panel A. It is found that investment spending (LINV), consumer spending (CE), relative import price (LRP) and trade liberalisation policy (TL) are the positive long-run determinants of aggregate import demand, while foreign exchange reserves (LFR) and government spending are negative determinants. The coefficients presented in Panel A of the same table show that a 1% increase in LINV, LCE, LRP and TL results in a 0.75%, 1.36%, 0.31% and 0.28% increase in aggregate import demand, respectively, while a 1% increase in FR and GE leads to a 0.08% and 0.73% decrease. The coefficients of these variables are statistically significant at 1% level. It is found that exports of goods and services (LEX) have no significant long-run influence on aggregate import demand. Except for LPR, LGE and LFR, the results

confirm that the coefficients of the significant variables carry the expected sign. The negative effect of LFR and positive effect of LPR are consistent with previous studies such as Agbola (2009) and Bathalomew (2010). The negative effect of LGE is inconsistent with the theoretical expectations, however, it can be explained by the positive effect of government spending on productivity as found by Aschauer (1989), which in turn discourages importation of certain goods.

In the case of Ghana, the results are presented in Table 7.3, Panel B. It is found that exports of goods and services (LEX) and consumer spending (LCE) are positive key long-run determinants of aggregate import demand, while foreign exchange reserves (LFR) is a negative key determinant. The long-run coefficients presented in Panel B of Table 7.3 confirm that a 1% increase in LEX and LCE leads to a 0.38% and 0.69% increase in aggregate import demand, respectively, while a 1% increase in LFR leads to a 0.01% decrease in aggregate import demand. The significant variables are statistically significant at 5% level. The coefficient of LCE and LEX carry the theoretically expected sign, while LFR does not carry the expected sign.

For Tanzania, the long-run results are presented in Table 7.3 Panel C. The results show that exports of goods and services (LEX) and investment spending (LINV) are positive determinants of aggregate import demand, while trade liberalisation policy (TL) is a negative determinant. It is found that a 1% increase in LEX and LINV leads to a 0.54% and 1.16% long-run increase in aggregate import demand, respectively, while a 1 % increase in TL results in a 0.52% decrease. The coefficients of these variables are statistically significant at either 1% or 10%. Foreign exchange reserves (LFR), government spending (LGE), consumer spending (LCE) and relative import price (LRP) are found to have no significant effect on aggregate import demand. TL appears to be inconsistent with theory. However, the negative effect of this variable is supported in previous studies such as by Narayan and Narayan (2005). The results on short-run elasticities for the three countries are presented in Table 7.4.

Table 7.4: Estimation of Short-Run Elasticities

South Africa-Panel A : The Appropriate Leg Length is (2,2,0,1,0,1,0,2)				
Regressor	**Coefficient**	**Standard Error**	**T-Ratio**	**Probability**
dLIMD1	-0.067	0.127	-0.529	0.604
dLEX	0.029	0.203	0.142	0.889

dLEX1	0.295*	0.144	2.046	0.057
dLINV	0.708***	0.166	4.272	0.001
dLCE	1.892***	0.467	4.051	0.001
dLGE	-0.685**	0.304	-2.254	0.038
dLFR	0.023	0.030	-0.028	0.994
dLRP	0.376*	0.197	1.914	0.073
dTL	-0.094*	0.049	-1.911	0.073
dTL1	-0.198***	0.055	-3.621	0.002
ecm(-1)	-0.942***	0.151	-6.254	0.000

R-Squared	0.935	R-Bar-Squared	0.859
S.E. of Regression	0.033	F-Stat. F(11,17) 16.8858	[0.000]
Mean of Dependent Variable	0.059	S.D. of Dependent Variable	0.088
Residual Sum of Squares	0.014	Equation Log-likelihood	69.249
Akaike Info. Criterion	53.249	Schwarz Bayesian Criterion	42.310
DW-statistic	1.898		

Ghana-Panel B : The Appropriate Lag Length is (1,1,1,1,1,0,0,0)

dLCE	1.429***	0.215	6.640	0.000
dLEX	0.547***	0.084	6.520	0.000
dLFR	-0.053*	0.027	-1.933	0.067
dLGE	0.145	0.120	1.206	0.241
dLINV	0.275***	0.068	4.026	0.001
dLRP	-0.031	0.108	-0.288	0.776
dTL	-0.059	0.058	-1.022	0.318
ecm(-1)	-0.541	0.181	-2.989	0.007

R-Squared	0.942	R-Bar-Squared	0.901
S.E. of Regression	0.056	F-Stat. F(8,21) 34.3365	[0.000]
Mean of Dependent Variable	0.055	S.D. of Dependent Variable	0.176
Residual Sum of Squares	0.053	Equation Log-likelihood	52.618
Akaike Info. Criterion	39.618	Schwarz Bayesian Criterion	30.510
DW-statistic	1.769		

Tanzania-Panel C : The Appropriate Lag Length is (1,0,0,1,0,1,1,0)

dLEX	0.359**	0.097	3.688	0.001
dLCE	-0.292	0.257	-1.135	0.269
dLGE	0.273	0.190	1.442	0.164
dLINV	0.776**	0.208	3.723	0.001
dLFR	-0.087	0.094	-0.928	0.364
dLRP	0.012	0.361	0.032	0.975
dTL	-0.349*	0.168	-2.082	0.050
ecm(-1)	-0.671	0.126	-5.333	0.000

R-Squared	0.901	R-Bar-Squared	0.841
S.E. of Regression	0.079	F-Stat. F(8,21) 20.5059	[0.000]
Mean of Dependent Variable	0.122	S.D. of Dependent Variable	0.197
Residual Sum of Squares	0.112	Equation Log-likelihood	41.349
Akaike Info. Criterion	29.349	Schwarz Bayesian Criterion	20.942
DW-statistic	1.760		

*Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

The short-run results for South Africa are presented in Table 7.4, Panel A. The results confirm that exports of goods and services in the previous period (dLEX1), investment spending (dLINV), relative import price (dLRP) and consumer spending (dLCE) are the key positive short-run determinants of aggregate import demand, while government spending (dGE), trade liberalisation policy (dTL) and trade liberalisation policy in the previous period (dTL1), are negative key short-run determinants. According to the results presented in the same table, a 1% increase in dLEX1, dLEX, dLINV, dLRP and dLFR1 results in a 0.21%, 0.78%, 0.38% and 1.89% increase in aggregate import demand, respectively, while a 1% increase in dGE, dTL and dTL1 leads to a 0.69% 0.09% and 0.11% decrease, respectively. With the exception of dLRP, dLGE, dTL and dTL1, the short-run coefficients have the expected signs and are in line with previous studies on this subject such as Agbola (2009) and Bathalomew (2010), among others. Exports of goods and services (dLEX) and foreign exchange reserves (dLFR) are found to have no short-run effect on aggregate import demand in South Africa.

Table 7.4, Panel B presents the short-run results for Ghana. The results suggest that exports of goods and services (dLEX), investment spending (dLINV) and consumer spending (dLCE) are positive short-run determinants of aggregate import demand, while foreign exchange reserves (dLFR) is a negative short-run determinant. The short-run coefficients confirm that a 1% increase in dLEX, dLINV and dLCE results in a 0.55%, 0.28% and 0.43% increase in aggregate import demand, respectively, while a 1% increase in dLFR leads to a 0.05% decrease in aggregate import demand. The coefficients of these variables are statistically significant at either 1% or 10%.

In the case of Tanzania, the results are shown in Table 7.4, Panel C. The short-run results suggest that exports of goods and services (dLEX) and investment spending (dLINV) are positive short-run determinants of aggregate import demand, while trade liberalisation (dTL) is a negative short-run determinant. The short-run coefficients suggest that a 1% increase in dLEX and dLINV leads to a respective 0.36% and 0.78% increase in aggregate import demand, while a 1% increase in TL leads to a 0.35% decrease. With the exception of trade liberalisation policy, the coefficients of these variables carry the theoretically expected signs and are significant at either 1% or 10%. The results suggest that foreign exchange reserves (dLFR), government spending (dLGE), consumer spending (dLCE) and relative import price (RP) have no significant effect on aggregate import demand, both in

the long run and short run. The negative effect of trade liberalisation policy contradicts theory; however, the results find support in studies such as Samuel (2015).

The error correction terms for South Africa, Ghana and Tanzania have negative signs and are statistically significant at 1%. This also confirms existence of a long-run relationship between import demand and its determinants. The overall results of Model 1 reveal that in the long-run, investment spending and trade liberalisation policy are the key determinants of aggregate import demand in South Africa and Tanzania, but not in Ghana. Consumer spending and foreign exchange reserves are found to have a long-run effect on aggregate import demand in Ghana and South Africa, but have no effect in Tanzania. The long-run results further show that exports of goods and services are the key determinants of aggregate import demand in Ghana and Tanzania, but have no effect in South Africa. The short run results confirm that investment spending and export of goods and services are the key determinants of aggregate import demand across all three countries, while consumer spending is significant only in South Africa and Ghana, and has no effect in Tanzania. Trade liberalisation appears to be a key short-run determinant only in South Africa and Tanzania, and has no effect in Ghana.

Diagnostic tests are carried out to test for serial correlation, normality, functional form and heteroscedasticity, and consistency of the model. The LM of these tests for the three countries are presented in Table 7.5 and Figure 7.1.

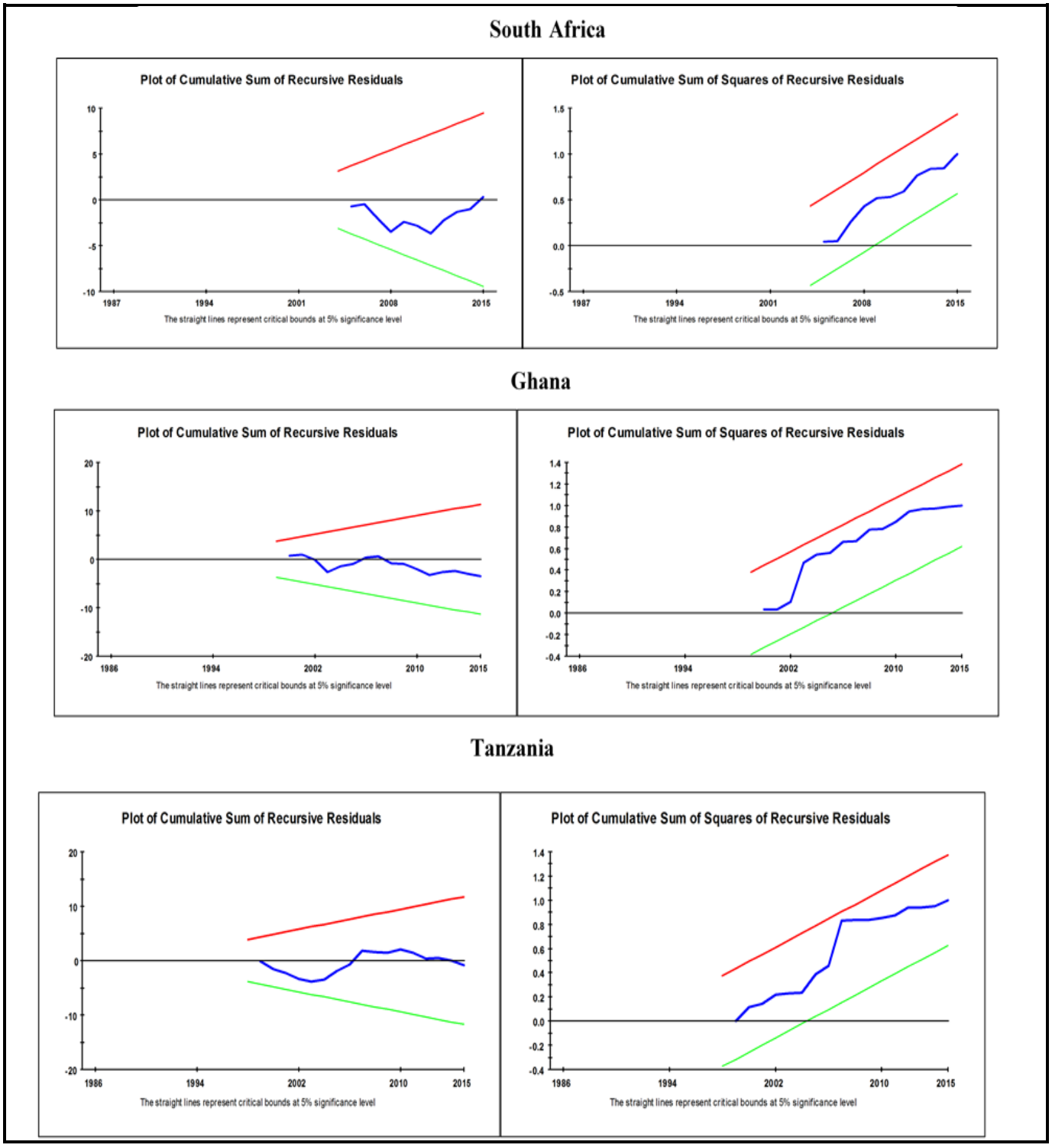
Table 7.5: Diagnostic Tests

Test Statistics (LM test)	**South Africa**	**Ghana**	**Tanzania**
Serial Correlation	0.2301[0.631]	0.586[0.444]	0.706[0.401]
Functional Form	2.2448[0.134]	0.358[0.549]	4.070[0.044]
Normality	.51393[0.773]	0.657[0.720]	0.425[0.808]
Heteroscedasticity	2.4911[0.114]	1.696[0.193]	0.008[0.929]

The results confirm that in the case of South Africa, Ghana and Tanzania, there is no serial correlation, and there is no significant heteroscedasticity, and non-normality issues. However, the model passed the functional form test only for South Africa and Ghana but not for Tanzania. Despite the functional form failure of Model 1 for Tanzania, an inspection of the Cumulative Sum (CUSUM) test and the Cumulative Sum of squares (CUSUMSQ) revealed that the model was stable for all the countries, including Tanzania. Therefore, the

results for all countries in this model are reliable. Figure 7.1 presents the CUSUM and CUSUMQ charts for the three countries under examination.

Figure 7.1: The Cumulative Sum (CUSUM) and Cumulative Sum of squares (CUSUMSQ) tests



The cumulative sum of recursive residuals and cumulative sum of squares of recursive residual plots lie within the critical bounds at 5%, and the results suggest no evidence of structural breaks in the estimated models in all the countries.

7.3.2 Empirical Analysis of Disaggregate Import Demand: Model 2

7.3.2.1 Bounds Test Results for Co-integration

The bounds F-test results for co-integration in Model 2 are presented in Table 7.6.

Table 7.6: Bounds Test Results for Co-integration

Country	**Estimated model**		**F-statistics**	**Inference**		
South Africa	IMDCON= f(IMDCON|FR INV EX CE GE RP TL)		3.936***	Co-integrated		
Ghana	IMDCON= f(IMDCON|FR INV EX CE GE RP TL)		4.798***	Co-integrated		
Tanzania	IMDCON= f(IMDCON|FR INV EX CE GE RP TL)		8.302***	Co-integrated		
Pesaran *et al.* (2001), p.300, Table CI(iii) Case III	**Asymptotic Critical Values**					
	1%		5%		10%	
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
	2.96	4.26	2.32	3.50	2.03	3.13

*Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

The results shown in Table 7.6 confirm co-integration between import demand of consumer goods and its determinants in the case of South Africa, Ghana and Tanzania. The F-statistics for the three countries are 3.93, 4.71 and 8.30, respectively. Having established that the import demand variable and its determinants are co-integrated, the next step is to estimate the long-run and short-run relationships between import demand of consumer goods and its determinants.

7.3.2.2 Estimation of Long-Run and Short-Run Coefficients

The appropriate lag length for all the three countries is based on own selection, this method was preferred over the other methods because it provided more statistically meaningful results. The lag length for each country is indicated with the results for the long-run and short-run relationship presented in Tables 7.7 and 7.8.

Table 7.7: Estimation of Long-Run Elasticities

South Africa-Panel A: The Appropriate Lag Length is (2,2,0,0,1,2,0,2)				
Regressor	**Coefficient**	**Standard Error**	**T-Ratio**	**Probability**
LEX	-0.732	1.341	-0.546	0.595
LGE	1.501	1.300	1.154	0.271
LCE	1.784	1.444	1.236	0.240
LINV	-0.502	0.674	-0.744	0.471
LFR	0.058	0.267	0.218	0.831
LRP	-0.635	1.254	-0.507	0.622
TL	1.326**	0.452	2.934	0.013
INPT	-17.508	5.450	-3.213	0.007
Ghana-Panel B: The Appropriate Lag Length is (1,1,0,0,0,1,0,1)				
LEX	-0.127	0.259	-0.490	0.630
LGE	0.079	0.329	0.239	0.814
LCE	1.543***	0.417	3.699	0.002
LINV	0.296	0.180	1.650	0.117
LFR	-0.193**	0.078	-2.482	0.024
RP	-0.006**	0.003	-2.378	0.029
TL	-0.568**	0.236	-2.404	0.028
INPT	-8.341	6.403	-1.303	0.210
Tanzania-Panel C: The Appropriate Lag Length is (2,1,0,0,1,0,0,0)				
LCE	1.795*	0.984	1.824	0.086
LEX	-0.080	0.539	-0.149	0.883
LGE	-0.109	0.473	-0.231	0.820
LINV	0.717	0.683	1.049	0.309
LFR	0.635*	0.308	2.064	0.055
LRP	-0.897	1.012	-0.887	0.388
TL	-1.397**	0.511	-2.734	0.014
INPT	-14.781	6.930	-2.133	0.048

*Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

As shown in Panel A in Table 7.7, in the case of South Africa, import demand of consumer goods is positively determined by trade liberalisation policy (TL). The long-run coefficients of these variables suggest that a 1% increase in this variable results in a 1.33% increase in import demand of consumer goods. The coefficient signs of these variables are as theoretically expected. The coefficients of TL are statistically significant at 5%. Exports of goods and services (LEX), government spending (LGE), consumer spending (LCE), relative import price (LRP) and foreign exchange reserves (LFR) and investment spending (LINV) are found to have no significant effect on import demand of consumer goods.

The long-run results for Ghana are presented in Table 7.7, Panel B. It is found that import demand of consumer goods is positively determined by consumer spending (LCE), while foreign exchange reserves (LFR), relative import price (LRP) and trade liberalisation policy (TL) are negative determinants. The long-run coefficients of these variables suggest that a 1% increase in LCE results in a 1.54% increase in import demand of consumer goods, while a 1% increase in LFR, LRP and TL leads to 0.19%, 0.01% and 0.57% decrease, respectively. Except for LFR and TL, the coefficient signs of these variables are as theoretically expected and consistent with the findings in Dutta and Ahmed (2004), among others. The coefficients of LCE, LRP and LFR are statistically significant at either 1% or 5%. Exports of goods and services (LEX), government spending (LGE), and investment spending (LINV) are found to have no significant effect on import demand of consumer goods. According to Harvey (2011), the insignificant effect of some of these factors in Ghana is expected, as during the period under examination, imports for some of the consumer goods depended on the shortage of local food production, rather than macroeconomic factors.

In the case of Tanzania, the long-run results presented in Table 7.7 Panel C show that, consumer spending (LCE) and foreign exchange reserves (LFR) are positive determinants of import demand of consumer goods, while trade liberalisation policy (TL) is a negative key determinant. The findings confirm that a 1 % increase in LCE and LFR results in a 1.71% and 0.64 increase in import demand of consumer goods, respectively, while a 1% increase in TL leads to a 0.31% decrease. The rest of the tested variables are found to have no significant effect on import demand of consumer goods. Table 7.8 presents the short-run results for the three countries.

Table 7.8: Estimation of short-run elasticities

South Africa-Panel A: The Appropriate Lag Length is (2,2,0,0,1,2,0,2)				
Regressor	**Coefficient**	**Standard Error**	**T-Ratio**	**Probability**
dLIMDCON1	-0.108	0.160	-0.679	0.507
dLEX	-0.562	0.570	-0.985	0.339
dLEX1	0.418	0.249	1.680	0.112
dLGE	0.883	0.602	1.466	0.162
dLCE	1.050	0.795	1.320	0.206
dLINV	0.036	0.375	0.097	0.924
dLFR	0.151*	0.085	1.777	0.095
dLFR	0.033	0.089	0.367	0.718
dLRP	-0.374	0.636	-0.587	0.565

dTL	0.114	0.128	0.888	0.388
dTL1	-0.655***	0.111	-5.883	0.000
ecm(-1)	-0.588	0.195	-3.013	0.008

R-Squared	0.892	R-Bar-Squared	0.749
S.E. of Regression	0.074	F-Stat. F(11,17)	9.0399 [0.000]
Mean of Dependent Variable	0.087	S.D. of Dependent Variable	0.147
Residual Sum of Squares	0.065	Equation Log-likelihood	47.216
Akaike Info. Criterion	30.216	Schwarz Bayesian Criterion	18.594
DW-statistic	2.107		

Ghana-Panel B: The Appropriate Lag Length is (1,1,0,0,0,1,0,1)

dLEX	-0.050	0.193	-0.260	0.797
dLGE	0.064	0.263	0.244	0.810
dCE	1.260***	0.384	3.279	0.004
dLINV	0.242	0.159	1.519	0.144
dLFR	0.075	0.093	0.807	0.429
dRP	-0.005*	0.003	-2.050	0.054
dTL	0.053	0.204	0.261	0.797
ecm(-1)	-0.816	0.191	-4.263	0.000

R-Squared	0.842	R-Bar-Squared	0.559
S.E. of Regression	0.123	F-Stat. F(12,16)	4.4538 [0.003]
Mean of Dependent Variable	0.077	S.D. of Dependent Variable	0.186
Residual Sum of Squares	0.152	Equation Log-likelihood	34.954
Akaike Info. Criterion	15.954	Schwarz Bayesian Criterion	2.965
DW-statistic	2.169		

Tanzania-Panel C: The Appropriate Lag Length is (2,1,0,0,1,0,0,0)

dLIMDCON1	0.627***	0.138	4.537	0.000
dLCE	1.240*	0.707	1.755	0.095
dLEX	0.304	0.359	0.847	0.408
dLGE	-0.075	0.326	-0.231	0.820
dLINV	0.175	0.434	0.402	0.692
dLFR	0.439**	0.206	2.132	0.046
dLRP	-0.620	0.651	-0.951	0.354
dTL	-0.965**	0.338	-2.855	0.010
ecm(-1)	-0.691***	0.127	-5.441	0.000

R-Squared	0.850	R-Bar-Squared	0.754
S.E. of Regression	0.159	F-Stat. F(9,19) 10.7362	[0.000]
Mean of Dependent Variable	0.070	S.D. of Dependent Variable	0.321
Residual Sum of Squares	0.431	Equation Log-likelihood	19.878
Akaike Info. Criterion	7.878	Schwarz Bayesian Criterion	-0.326
DW-statistic	1.969		

*Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

For South Africa, the short-run results are presented in Table 7.8 Panel A. It is found that foreign exchange reserves (dLFR), is a positive short-run determinant of import demand of consumer goods, while trade liberalisation policy (dTL) is a negative determinant. The

results confirm that a 1% increase in dLFR and dTL leads to a 0.51% increase and 0.66% decrease in import demand of consumer goods, respectively. The coefficients of these variables are statistically significant at either 1% or 10%. The findings show that dLFR carries the correct sign, while dTL does not. The results find support in the work of Bathalomew (2010) and Khan *et al*. (2013), among others. It is found that consumer spending (dLCE), exports of goods and services (dLEX), relative import price (dLRP), investment spending (dLINV), and government spending (dLGE) have no short-run significant effect on import demand of consumer goods.

In the case of Ghana, the results presented in Panel B of Table 7.8 indicate that consumer spending (dLCE) and relative import price (dLRP) are positive and negative short-run determinants of import demand for consumer goods, respectively. The short-run coefficients suggest that a 1% increase in dLCE and dLRP leads to a 1.26% increase and 0.01% decrease in import demand for consumer goods, respectively. The coefficients of these variables are statistically significant at either 1% or 10%. The coefficient signs of these variables are as theoretically expected and in line with the findings by Gunçavdi and Ulengin (2012) and Chen (2008). Trade liberalisation policy (dTL), exports of goods and services (dLEX), foreign exchange reserves (dLFR), investment spending (dLINV) and government spending (dLGE) are found to have no significant influence on import demand for consumer goods in the short run.

For Tanzania, the short-run results on the determinants of import demand for consumer goods are presented in Table 7.8, Panel C. The results show that Tanzania's import demand for consumer goods is positively determined by consumer spending (dLCE), foreign exchange reserves (dLFR) and import demand for consumer goods in the previous period (dLIMDCON1), but negatively determined by trade liberalisation policy (dTL). It is found that a 1% increase in dLCE, dLFR and dLIMDCON1 leads to a 1.24%, 0.44% and 0.63% short-run increase in import demand for consumer goods, while a 1% increase in TL results in 0.97% decrease, respectively.

The error correction terms for South Africa, Ghana and Tanzania have negative signs and are statistically significant at 5%, 1% and 1%, respectively. This also suggests existence of a long-run relationship between import demand for consumer goods and its determinants.

In summary, the long-run results for Model 2 suggest that foreign exchange reserves, consumer spending and trade liberalisation policy are the key determinants of import

demand for consumer goods in Ghana and Tanzania, while only trade liberalisation is significant in South Africa. In the short run, the results suggest that foreign exchange reserves and trade liberalisation policy are the key determinants of import demand for consumer goods in South Africa and Tanzania, while they have no effect in Ghana. Consumer spending is also found to be a significant determinant in Ghana and Tanzania, while it has no effect in South Africa.

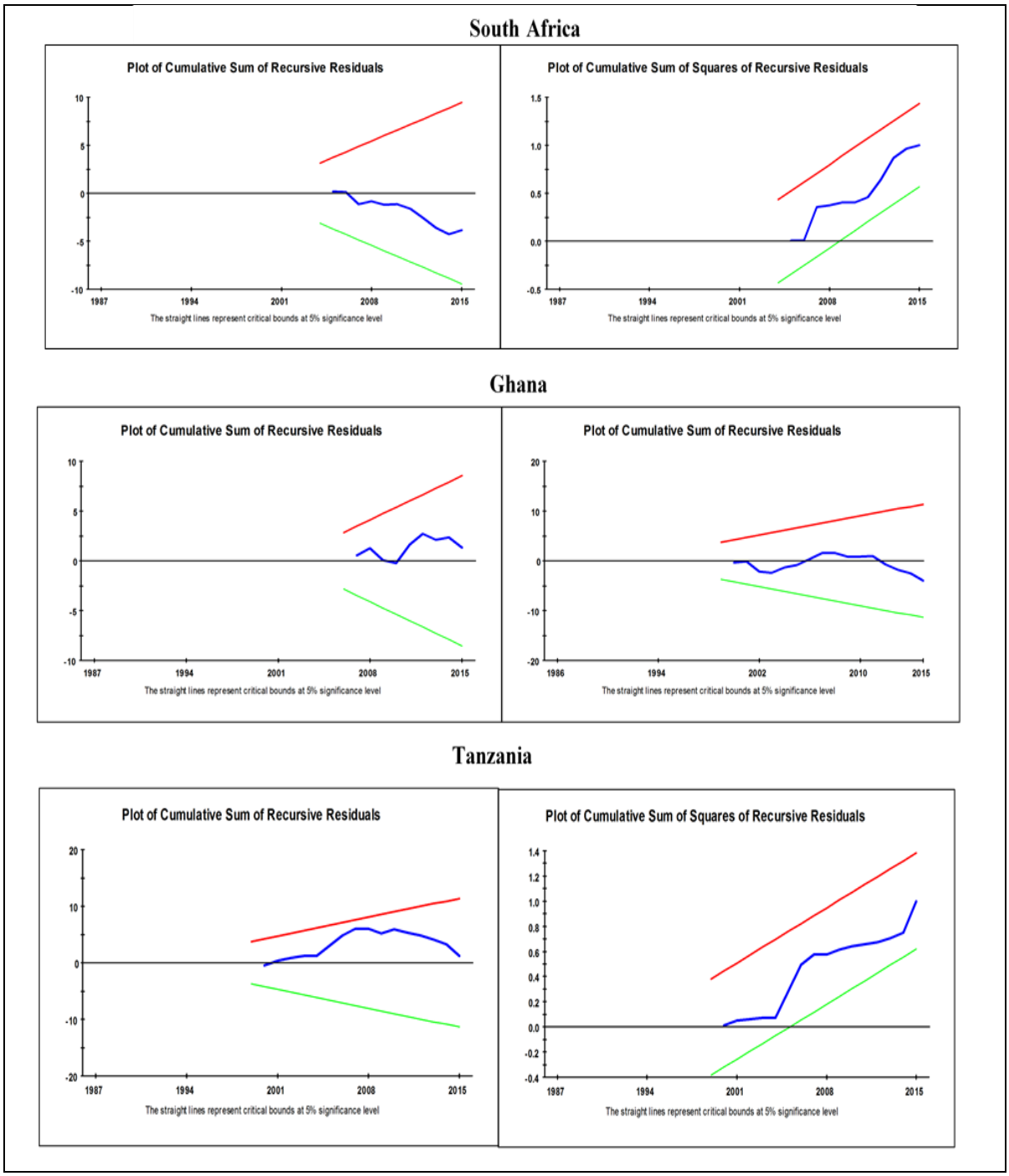
To test for serial correlation, normality, functional form and heteroscedasticity, diagnostic tests are carried out. The results from the LM test are presented in Table 7.9.

Table 7.9: Diagnostic Tests

Test Statistics (LM test)	South Africa	Ghana	Tanzania
Serial Correlation	2.359[0.125]	1.9179[0.166]	0.458[0.499]
Functional Form	4.206[0.040]	6.8106[0.009]	8.271[0.004]
Normality	0.444[0.801]	0.9201[0.631]	0.007[0.996]
Heteroscedasticity	0.014[0.907]	0.1068[0.744]	0.172[0.990]

The diagnostic results confirm that in the case of South Africa, Ghana and Tanzania, there is no presence of serial correlation. Furthermore, there are no problems of heteroscedasticity, and normality. However, there is evidence of a functional form problem across all three countries. Nevertheless, the CUSUM and CUSUMQ graphs for the three countries, displayed as Figure 7.2, show that Model 2 is well specified for all the three countries.

Figure 7.2: The Cumulative Sum of squares (CUSUMSQ) tests and Cumulative Sum (CUSUM)



The cumulative sum of recursive residuals and cumulative sum of squares of recursive residual lie within the critical bounds at 5%, and the results suggest evidence of structural stability in the estimated models in all the three countries.

7.3.3 Empirical Analysis of Disaggregate Import Demand: Model 3

7.3.3.1 ARDL-Co-integration Test

The bound F-test for results for co-integration in Model 3 are presented in Table 7.10.

Table 7.10: ARDL Bound Test Results for Co-integration

Country	**Estimated model**		**F-statistics**	**Inference**		
South Africa	IMDINT = f(IMDINT|FR INV EX CE GE RP TL)		7.703***	Co-integrated		
Ghana	IMDINT = f(IMDINT|FR INV EX CE GE RP TL)		4.178***	Co-integrated		
Tanzania	IMDINT = f(IMDINT|FR INV EX CE GE RP TL)		3.832***	Co-integrated		
Pesaran *et al*. (2001), p.300, Table CI(iii) Case III	**Asymptotic Critical Values**					
	1%		5%		10%	
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
	2.96	4.26	2.32	3.50	2.03	3.13

Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

As shown in Table 7.10, in the case of South Africa, Ghana and Tanzania, the F-statistics are 5.06, 4.18 and 3.83, respectively. The results confirm existence of a co-integration between import demand and its determinants. After establishing that the import demand variable and its determinants are co-integrated, the next step is to estimate the long-run and short-run relationships between disaggregate import demand and its determinants using the appropriate lag length.

7.3.3.2 Estimation of the Long-Run and Short-Run Coefficients

The appropriate lag length is selected based on own selection for all the three countries. The method is preferred because it provided more statistically meaningful results than the other methods. After selecting the appropriate lag length, the study proceeded to estimate the long-run and short-run elasticities for the import demand for intermediate goods in South Africa, Ghana and Tanzania. For all the three countries, the lag length together with the long-run and short-run results on the determinants of import demand for intermediate goods are presented in Tables 7.11 and 7.12.

Table 7.11: Estimation of Long-Run Elasticities

South Africa-Panel A: The Appropriate Lag Length is (1,0,0,0,1,0,0,1)				
Regressor	**Coefficient**	**Standard Error**	**T-Ratio**	**Probability**
LEX	-0.256	0.251	-1.020	0.320
LCE	1.718***	0.478	3.595	0.002
LGE	0.468*	0.239	1.956	0.065
LINV	-0.168	0.181	-0.930	0.364
LFR	0.040	0.038	1.042	0.311
LRP	-0.911***	0.228	-3.990	0.001
TL	0.367***	0.055	6.724	0.000
INPT	-11.172	1.500	-7.448	0.000
Ghana-Panel B: The Appropriate Lag Length is (2,0,1,1,2,0,1,2)				
LEX	-0.269	0.176	-1.530	0.152
LCE	1.780***	0.360	4.951	0.000
LGE	1.102***	0.367	3.005	0.011
LINV	0.966**	0.320	3.021	0.011
LFR	0.108*	0.060	1.811	0.095
LRP	0.726**	0.318	2.283	0.041
TL	-0.241	0.163	-1.483	0.164
INPT	-39.776*	8.871	-4.484	0.001
Tanzania-Panel C: The Appropriate Lag Length is (2,2,0,0,0,1,0,0)				
LEX	0.999*	0.517	1.934	0.071
LCE	-0.612	0.906	-0.676	0.509
LGE	-0.410	0.330	-1.245	0.231
LINV	0.341	0.428	0.795	0.438
LRFRT	0.087	0.309	0.282	0.782
LRP	0.342	0.567	0.604	0.554
TL	-1.320*	0.465	-2.838	0.012
INPT	7.345	8.313	0.884	0.39

*Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

As shown in Table 7.11, Panel A, the long-run results for South Africa suggest that trade liberalisation policy (TL), government spending (LCE) and government spending (LGE) are the positive key determinants of import demand for intermediate goods, while relative import price (LRP) is a negative determinant. The long-run coefficient of TL, LCE and LGE presented in Panel A of the same table reveal that a 1% increase in TL, LCE and LGE leads to a 0.37%, 1.71% and 0.47% increase in import demand for intermediate goods, respectively, a 1% increase in LRP leads to a 0.91% decrease in import demand for intermediate goods. The coefficient of TL, LCE, LGE and LRP carry the correct sign and are consistent with the theoretical expectations and the findings in Bartholomew (2010) among others. Foreign exchange reserves (LFR), exports of goods and services (LEX) and investment spending (LINV) are found to have no significant effect on import demand for

intermediate goods. The coefficients of the determinants are statistically significant at 5% level.

In the case of Ghana, the results presented in Panel B of Table 7.11, show that government spending (LGE), investment spending (LINV), foreign exchange reserves (LFR), relative import price (RP) and consumer spending (LCE) are positive key determinants of import demand for intermediate goods. The long-run coefficients show that, l% increase in these variables leads to a 1.10%, 0.97%, 0.11%, 0.73%, and 1.78% increase in import demand for intermediate goods, respectively. The coefficients of these variables are statistically significant at either 10% or 5% level. With the exception of LRP, the coefficient signs of the determinants of import demand for intermediate goods are in line with the theoretical expectations and the results find support in empirical studies such as Chani e*t al.* (2011). Trade liberalisation policy (TL) and exports of goods and services (LEX) are found to have no significant effect on import demand for intermediate goods.

The long-run results for Tanzania are presented in Table 11, Panel C. It is found that import demand of intermediate goods is positively determined by exports of goods and services (LEX) and negatively determined by trade liberalisation policy (TL). The findings show that a 1% increase in LEX and TL results in a 0.91% increase and 1.32% decrease in import demand for intermediate goods. Relative import price (LRP), government spending (LGE), consumer spending (LCE), investment spending (LINV) and foreign exchange reserves (LFR) appear to have no significant effect on import demand for intermediate goods. The coefficients of the key determining factors are statistically significant at 5%.

Table 7.12: Estimation of Short-Run Elasticities

South Africa-Panel A: The Appropriate Lag Length is (1,0,0,0,1,0,0,1)				
Regressor	**Coefficient**	**Standard Error**	**T-Ratio**	**Probability**
dLEX	-0.241	0.227	-1.065	0.299
dLCE	1.622***	0.451	3.601	0.002
dLGE	0.442*	0.248	1.779	0.090
dLINV	0.278	0.169	1.647	0.114
dLFR	0.037	0.035	1.071	0.296
dLRP	-0.861***	0.271	-3.171	0.005
dTL	0.227***	0.056	4.024	0.001
ecm(-1)	-0.944***	0.209	-4.516	0.000

R-Squared	0.756	R-Bar-Squared	0.627
S.E. of Regression	0.042	F-Stat. F(8,21) 7.3537	[0.000]
Mean of Dependent Variable	0.056	S.D. of Dependent Variable	0.068
Residual Sum of Squares	0.033	Equation Log-likelihood	59.710

Akaike Info. Criterion	48.710	Schwarz Bayesian Criterion	41.003	
DW-statistic	1.858			
Ghana-Panel B: The Appropriate Lag Length is (2,0,1,1,2,0,1,2)				
dLIMDINT1	0.012	0.158	0.077	0.940
dLEX	-0.196	0.118	-1.661	0.115
dLCE	0.381	0.311	1.225	0.237
DLGE	0.738***	0.195	3.788	0.001
dLINV	0.228*	0.117	1.942	0.069
dLINV1	-0.205	0.122	-1.678	0.112
dLFR	0.079	0.055	1.429	0.171
dLRP	0.286	0.258	1.105	0.284
dTL	0.116	0.129	0.896	0.383
dTL1	0.094	0.110	0.861	0.401
ecm(-1)	-0.728***	0.168	-4.346	0.000
R-Squared	0.825	R-Bar-Squared	0.5917	
S.E. of Regression	0.081	F-Stat. F(11,17)	5.1432	[0.001]
Mean of Dependent Variable	0.024	S.D. of Dependent Variable	0.1269	
Residual Sum of Squares	0.079	Equation Log-likelihood	44.4944	
Akaike Info. Criterion	27.494	Schwarz Bayesian Criterion	15.8724	
DW-statistic	2.385			
Tanzania-Panel C: The Appropriate Lag Length is (2,2,0,0,0,1,0,0)				
dLIMDINT1	0.634***	0.149	4.266	0.000
dLCE	-0.583	0.787	-0.740	0.469
dLEX	-0.025	0.289	-0.085	0.933
dLEX1	-0.418	0.294	-1.423	0.172
dLGE	-0.391	0.339	-1.151	0.265
dLINV	0.324	0.432	0.750	0.463
dLFR	-0.114	0.247	-0.462	0.649
dLRP	0.326	0.522	0.624	0.540
dTL	-1.257***	0.374	-3.360	0.003
ecm(-1)	-0.952***	0.195	-4.876	0.000
R-Squared	0.896	R-Bar-Squared	0.818	
S.E. of Regression	0.145	F-Stat. F(10,18)	13.7970	[0.000]
Mean of Dependent Variable	0.026	S.D. of Dependent Variable	0.339	
Residual Sum of Squares	0.335	Equation Log-likelihood	23.519	
Akaike Info. Criterion	10.519	Schwarz Bayesian Criterion	1.632	
DW-statistic	1.977			

*Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

The short-run results for South Africa are presented in Table 7.12 Panel A. The results confirm that import demand for intermediate goods is positively determined by consumer spending (dLCE), government spending (dLGE), and trade liberalisation policy (dTL), but negatively determined by relative import price (dLRP). The short-run coefficients presented in Panel A of the same table show that a 1% increase in dLCE, dLGE, and dTL results in a

1.62%, 0.44% , and 0.23% increase in import demand for intermediate goods, respectively, while a 1% increase in dLRP leads to a 0.86% decrease. Foreign exchange reserves (dLFR), exports of goods and services (dLEX) and investment spending (dLINV) appear to have no significant effect on import demand for intermediate goods. The coefficients of the determinants are statistically significant at either 1% or 10% level.

As presented in Table 7.12, Panel B, the short-run results for Ghana reveal that government spending (dLGE) and investment spending (dLINV) are positive key determinants of import demand for intermediate goods. The short-run coefficients show that a 1% increase in these variables results in a 0.74% and 0.23% increase in import demand for intermediate goods, respectively. The coefficients of the long-run and short-run determinants of import demand of intermediate goods are statistically significant at either 5% or 1% level. Relative import price (dLRP), foreign exchange reserves (dLFR), government spending (dLGE) exports of goods and services (dLEX) and trade liberalisation (dTL) are found to have no significant effect on import demand for intermediate goods in Ghana.

The short-run results for Tanzania are presented in Table 7.12, Panel C. It is found that import demand for intermediate goods is positively and negatively determined by import demand of intermediate goods (dLIMDINT1) and trade liberalisation policy (dTL), respectively. According to the results presented in Panel C of the same table, a 1% increase in these variables results in a 0.63% increase and 1.26% decrease in import demand for intermediate goods, respectively. The coefficients of these variable are statistically significant at 10% level.

The coefficients of the error correction models for South Africa, Ghana, and Tanzania are negative and statistically significant at 1%. This further confirms the existence of a long-run relationship between import demand of intermediate goods and its determinants.

In summary, the long-run findings show that consumer spending, relative import price and government spending are the key determinants of intermediate goods in South Africa and Ghana. Trade liberalisation policy is a key determinant of import demand for intermediate goods in South Africa and Tanzania, but has no significant effect in Ghana. In the short run, the results confirm that government spending is a key determinant in South Africa and Ghana. While trade liberalisation policy is a key determinant in South Africa and Tanzania.

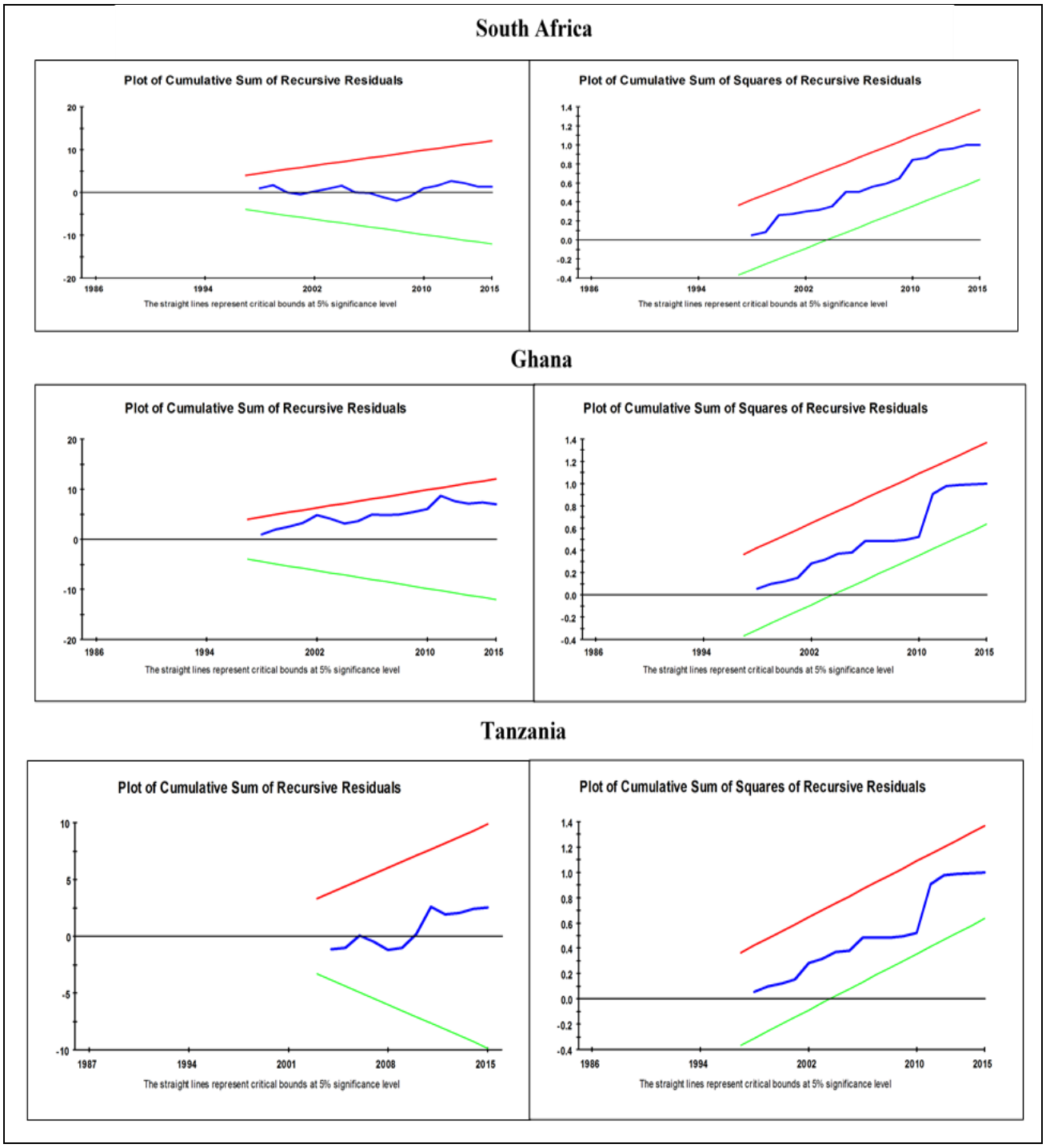
A set of diagnostic tests is also conducted to test for the presence of serial correlation, heteroscedasticity functional form and normality issues. The results for all the three countries are presented in Table 7.13.

Table 7.13: Diagnostic Tests

Test Statistics(LM test)	South Africa	Ghana	Tanzania
Serial Correlation	0.268[0.605]	2.070[0.150]	0.003[0.958]
Functional	1.532[0.216]	0.385[0.535]	0.770[0.380]
Normality	3.475[0.176]	1.658[0.436]	1.211[0.546]
Heteroscedasticity	0.052[0.820]	0.089[0.765]	0.464[0.983]

Across all the three countries, the results confirm that there is no presence of serial correlation. Furthermore, there are no significant heteroscedasticity, and normality. Despite the functional form failure of Model 3 for South Africa, an inspection of the CUSUM test and the CUSUMSQ revealed that the model was stable for all the countries, including Tanzania. The CUSUM and CUSUMQ charts for the three countries are shown in figure 7.3.

Figure 7.3: The Cumulative Sum (CUSUM) and Cumulative Sum of squares (CUSUMSQ) tests



As shown in Figure 7.3, the models for the three countries are stable as both the CUSUM and CUSUMQ test statistics are within the bounds of the 5% significance level.

7.3.4 Empirical Analysis of disaggregate Import Demand: Model 4

7.3.4.1 ARDL-Co-integration Test

The bound F-test results for co-integration in Model 4 are presented in Table 7.14.

Table 7.14: ARDL Bound Test Results for Co-integration

Country	**Estimated model**		**F-statistics**	**Inference**		
South Africa	IMDCP =f(IMDCP|FR INV EX CE GE RP TL)		3.543***	Co-integrated		
Ghana	IMDCP =f(IMDCP|FR INV EX CE GE RP TL)		3.164***	Co-integrated		
Tanzania	IMDCP=f(IMDCP|FR INV EX CE GE RP TL)		3.947***	Co-integrated		
Pesaran et al. (2001), p.300, Table CI(iii) Case III	**Asymptotic Critical Values**					
	1%		5%		10%	
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
	2.96	4.26	2.32	3.50	2.03	3.13

The co-integration results presented in Table 7.14 show that, in the case of South Africa, Ghana and Tanzania, the F-statistics is 4.06, 3.164 and 3.947, respectively. They confirm the existence of a co-integration between the tested variables. The long-run and short-run results of import demand for capital goods are reported in Table 7.15 and 7.16.

7.3.4.2 Estimation of Long-run and Short-run coefficients

The appropriate lag length is in this model is selected based on own selection for all the three countries. The method was preferred over the other methods because it provided more statistically meaningful results. The lag length for each country is presented together with the results for the long-run and short-run relationship presented in Table 7.15 and 7.16.

Table 7.15: Estimation of Long-Run Elasticities

South Africa-Panel A: The Appropriate Lag Length is (2,1,2,0,1,0,0,2)				
Regressor	**Coefficient**	**Standard Error**	**T-Ratio**	**Probability**
LGE	1.296	1.076	1.204	0.250
LEX	1.535	0.952	1.612	0.131
LCE	-1.577	1.538	-1.025	0.324
LINV	0.406	0.540	0.752	0.465
LFR	-0.283**	0.098	-2.904	0.012
LRP	1.120*	0.614	1.824	0.091
TL	0.114	0.205	0.557	0.587
INPT	-9.965***	5.348	-1.863	0.085
Ghana-Panel B: The Appropriate Lag Length is (2,0,0,0,1,0,1,2)				
LEX	0.358	0.278	1.288	0.217

LCE	0.321	0.465	0.690	0.501
LGE	-0.043	0.297	-0.146	0.886
LINV	-0.334	0.296	-1.125	0.278
LFR	-0.108	0.062	-1.741	0.102
LRP	-0.839**	0.308	-2.723	0.016
TL	-0.330	0.245	-1.347	0.198
INPT	13.488*	7.450	1.811	0.090
Tanzania-Panel C: The Appropriate Lag Length is (1,0,0,0,1,0,0,0)				
LCE	0.175	1.232	0.142	0.889
LEX	1.119*	0.492	2.277	0.034
LGE	-0.244	0.824	-0.296	0.771
LINV	-0.040	1.166	-0.034	0.973
LFR	0.569	0.484	1.175	0.254
LRP	0.922	1.415	0.651	0.522
TL	-1.189	0.929	-1.281	0.215
INPT	-9.364	7.516	-1.246	0.227

*Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

As shown in Table 7.15, Panel A, relative import price (LRP) and foreign exchange reserves (LFR) are positive and negative determinants of import demand for capital goods, respectively. According to these results, a 1% increase in the LRP and LFR leads to a 1.12% increase and 0.28% decrease in import demand of capital goods, respectively. The coefficients of these variables do not carry the expected signs, but are consistent with the findings in Budha (2014). The coefficients of the two variables are statistically significant at either 1% or 5%. Investment spending (LINV), consumer spending (LCE), and government spending (LGE) exports of goods and services (LEX) and trade liberalisation (TL) are found to have no significant effect on import demand for capital goods in South Africa.

In the case of Ghana, the results presented in Table 7.15, Panel B, show that in the long run, relative import price (LRP) is a negative long-run determinant of import demand of capital goods. A 1% increase in this variable results in a 0.84% decrease in import demand of capital goods. consumer spending (LCE), government spending (LGE), foreign exchange reserves (LFR), exports of goods and services (LEX), investment spending (LINV) and trade liberalisation (TL) are found to have no significant effect on import demand for capital goods in Ghana

The results for Tanzania are reported in Table 7.15 Panel C. The results confirm that consumer exports of goods and services (LEX) is a positive determinant of import demand for capital goods in Tanzania. A 1% increase in this variable results in a 1.12% increase in

import demand for capital goods. Foreign exchange reserves (LFR), investment spending (LINV) and trade liberalisation policy (TL), government spending (LGE), relative import price (LRP) and consumer spending (LCE) appear to have no long-run influence on import demand for capital goods. The long-run results suggest that the coefficient of LEX carries the correct sign, the findings are supported in Dube (2011), Gumede (2000), Chen (2008), Bathalomew (2010), and Zhou and Dube (2011), among others. The short-run results are presented in Table 7.16.

Table 7.16: Estimation of Short-Run Elasticities

South Africa-Panel A: The Appropriate Lag Length is (2,1,2,0,1,0,0,2)				
Regressor	**Coefficient**	**Standard Error**	**T-Ratio**	**Probability**
dLIMDCP1	-0.161	0.218	-0.736	0.472
dLGE	0.149	0.600	0.249	0.806
dLEX	1.446***	0.357	4.052	0.001
dLEX1	0.398	0.244	1.631	0.121
dLCE	-0.801	0.660	-1.212	0.242
dLINV	-0.381	0.270	-1.411	0.176
dLFR	-0.144*	0.068	-2.110	0.050
dLRP	0.568	0.337	1.685	0.110
dTL	-0.079	0.086	-0.920	0.370
dTL1	-0.098	0.075	-1.305	0.209
ecm(-1)	-0.508**	0.176	-2.892	0.010

R-Squared	0.812	R-Bar-Squared	0.596
S.E. of Regression	0.052	F-Stat. F(11,17)	5.1178 [0.001]
Mean of Dependent Variable	0.055	S.D. of Dependent Variable	0.081
Residual Sum of Squares	0.035	Equation Log-likelihood	56.393
Akaike Info. Criterion	40.393	Schwarz Bayesian Criterion	29.455
DW-statistic	2.241		

Ghana -Panel B: The Appropriate Lag Length (2,0,0,0,1,0,1,2)				
dLIMDCP1	-0.263	0.181	-1.454	0.163
dLEX	0.148*	0.080	1.856	0.080
dLHC	0.133	0.243	0.547	0.591
dLGC	-0.018	0.126	-0.143	0.888
dLINV	-0.085	0.083	-1.026	0.318
dLFR	-0.045	0.041	-1.103	0.284
dLRP_	0.062	0.144	0.434	0.669
dTL	-0.087	0.107	-0.820	0.423
dTL1	0.246**	0.076	3.226	0.005
ecm(-1)	-0.415*	0.215	-1.933	0.069

R-Squared	0.735	R-Bar-Squared	0.506
S.E. of Regression	0.060	F-Stat. F(10,18)	4.1665 [0.004]

Mean of Dependent Variable	0.060	S.D. of Dependent Variable	0.086	
Residual Sum of Squares	0.055	Equation Log-likelihood	49.762	
Akaike Info. Criterion	35.762	Schwarz Bayesian Criterion	26.190	
DW-statistic	2.195			
Tanzania -Panel C: The Appropriate Lag Length (1,0,0,1,0,0,0,0)				
dLEX	0.815**	0.346	2.351	0.029
dLGE	-0.177	0.590	-0.300	0.767
dLINV	-1.342*	0.771	-1.741	0.096
dLRFRT	0.414	0.325	1.273	0.217
dLRP	0.671	1.081	0.620	0.542
dLCE	0.127	0.908	0.140	0.890
dTL	-0.866	0.606	-1.429	0.168
ecm(-1)	-0.728	0.165	-4.409	0.000
R-Squared	0.705	R-Bar-Squared	0.572	
S.E. of Regression	0.291	F-Stat. F(8,21)	5.9651 [0.000]	
Mean of Dependent Variable	0.083	S.D. of Dependent Variable	0.445	
Residual Sum of Squares	1.697	Equation Log-likelihood	0.514	
Akaike Info. Criterion	-9.486	Schwarz Bayesian Criterion	-16.492	
DW-statistic	1.604			

*Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

The short-run results for South Africa are presented in Panel A of Table 7.16. The short-run coefficients confirm that export of goods and services (LEX) and foreign exchange reserves (LFR) are positive and negative key determinants of import demand of capital goods. A 1% increase in these variables leads to a 1.45% increase and 1.44% decrease in import demand for capital goods. These results are consistent with the findings in Sinha and Sinha (2000) and are statistically significant at either 1% or 10%. It is found that consumer spending (dLCE), government spending (dLGE), relative import price (dLRP), trade liberalisation policy (dTL) and investment spending (dLINV) have no short-run effect on import demand for capital goods.

Table 7.16, Panel B presents the short-run results for Ghana. It is found that exports of goods and services (dLEX), and trade liberalisation policy in the previous period (dTL1) are positive determinants of import demand for capital goods. The results confirm that a 1% increase in these variables leads to a 1.15% and 0.25% increase in import demand for capital goods, respectively. The coefficients of these variables are statistically significant at either 1% or 5%. The coefficient signs of these variables are as theoretically expected and the results are supported in studies such as by Oktay and Gozgor (2013). The insignificant effect of relative import price on imports is also confirmed in the study by Chani, *et.al* (2011).

Relative import price (dLRP), foreign exchange reserves (dLFR), consumer spending (dLCE), government spending (dLGE), exports of goods and services (dLEX) and trade liberalisation (dTL) are found to have no significant effect on import demand for capital goods in Ghana.

The short-run results for Tanzania are reported in Table 7.16, Panel C. The findings confirm that import demand for capital goods is positively determined by exports of goods and services (dLEX), while investment spending (dLINV) is found to be a negative determinant. It is found that a 1% increase in these variables results in a 0.82% increase and a 1.34% decrease in import demand for capital goods. The results are supported by Chen (2008) and Budha (2014).

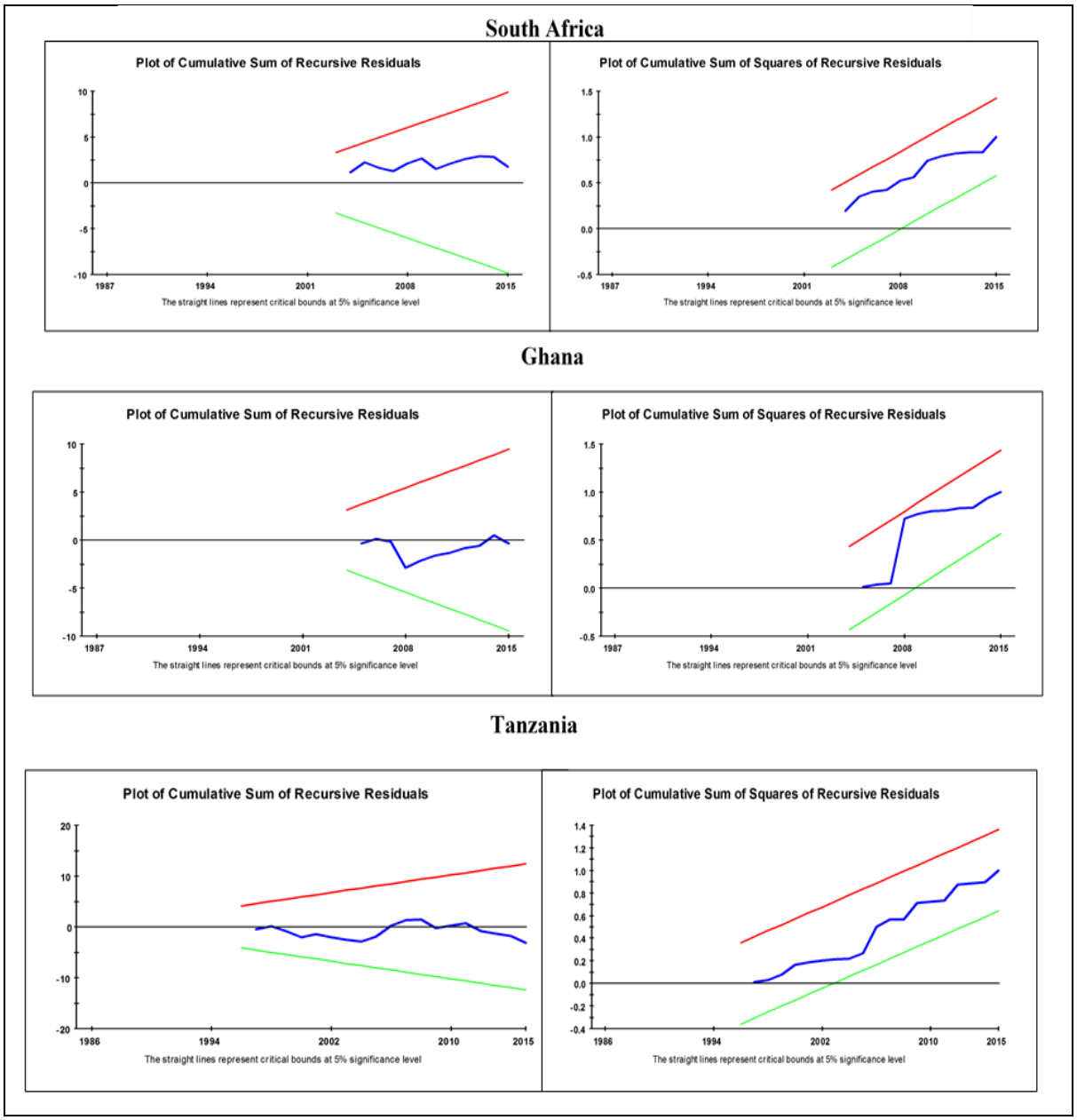
The error correction models for South Africa, Ghana and Tanzania are negative and statistically significant at 5%, 1% and 1%, further proving the existence of a long-run relationship between import demand and its determinants. In the main, Model 4 has shown that in the long run, relative import price is a key determinant of import demand in South Africa and Ghana, but has no effect in Tanzania. In the short run, the results show that export of goods and services is a major determinant of import demand for capital goods, across all the countries. The LM of these tests for the three countries are presented in Table 7.17.

Table 7.17: Diagnostic Tests

Test Statistics(LM test)	South Africa	Ghana	Tanzania
Serial Correlation	2.121[0.144]	2.521[0.112]	1.813[0.178]
Functional Form	3.153[0.076]	0.370[0.543]	11.459[0.001]
Normality	2.045[0.360]	1.958[0.376]	1.317[0.518]
Heteroscedasticity	0.641[0.420]	0.124[0.725]	1.168[0.280]

The results from the diagnostic tests confirmed that the estimated model passed both the serial correlation, and heteroscedasticity tests. Although the model could not pass the diagnostic test on functional form in South Africa and Tanzania, an inspection of the CUSUM and CUSUMSQ graphs, represented in Figure 7.4, confirms stability of the model in the study countries.

Figure 0.4: The Cumulative Sum (CUSUM) and Cumulative Sum of squares (CUSUMSQ) tests



The results from the CUSUM and CUSUMSQ tests indicate that the estimated parameters of the model are stable.

7.3.5 Summary of the ARDL Results

This section presents the summary of the ARDL results from the aggregate import demand function (Model 1), import demand for consumer goods (Model 2), import demand for

intermediate goods (Model 3) and import demand for capital goods (Model 4), for South Africa, Ghana and Tanzania. The summarised results are presented in Table 7.18.

Table 7.18: Summary of Results for all Study Countries

	South Africa		Ghana		Tanzania	
	Significant		Significant		Significant	
	Long run	Short run	Long run	Short run	Long run	Short run
	Determinants of Aggregate Import Demand(Model 1)					
LFR	–		–	–		
LFR1						
EX			+	+	+	+
INV	+	+	+	+	+	+
GE	–	–				
CE	+	+	+	+		
RP	+	+				
TL	+	–			–	–
EX1		+				
TL1		–				
AIMD						
	Determinants of Import Demand of Consumer Goods (Model 2)					
FR		+	–		+	+
EX						
EX1						
INV						
GE						
CE			+	+	+	+
RP			–	–		
RP1						
TL	+		–		–	–
LIMDCON1						
TL1		–				
	Determinants of Import Demand of Intermediate Goods (Model 3)					
FR			+			
EX					+	
INV			+	+		
INV1						
GE	+	+	+	+		
CE	+	+	+			
RP	–	–	+			
TL	+	+			–	–
EX1						

FR1						
IMDINT1						+
	Determinants of import demand of Capital goods (Model 4)					
FR	–	–				
EX		+		+	+	+
INV						–
GE						
CE						
RP	+		–			
TL						
INV1						
TL1				+		
FR1						
EX1						
GE1						
RP1						
IMDCP1						

Notes: + indicates evidence of a positive significant impact on import demand, - indicates evidence of a negative significant impact on import demand

The results from the four models vary depending on the country under consideration and the import category used as dependent variable. The results shown in Table 7.18 show that in the case of South Africa, consumer spending is a positive long-run and short-run determinant in Models 1, while it is only a long-run determinant in Model 3 and is not a determinant in Models 2 and 4. It is found that government spending is a negative long-run and short-run determinant of import demand in Model 1, while it is only a positive long-run determinant of import demand in Model 3 and has no effect in Models 2 and 4.

It is found that foreign exchange reserves is a negative long-run and short-run determinant of import demand in Model 4, only a negative long-run and short-run determinant in Models 1 and 3, while it is a positive short-run determinant in Model 2. Trade liberalisation policy is found to be a positive long-run determinant in Models 1 and 2 and a negative short- run determinant in Model 1. The results show that investment spending is a positive long-run and short-run determinant in Models 1 and is not a determinant in Models 2 to 4. Relative import price is a positive long-run and short-run determinant in Model 1, and only a negative and positive long-run determinant in Model 3 and 4, respectively. This variable is found to have no effect in Model 2. Exports of goods and services is found to be a short-run determinant in Models 3 and 4 and has no effect in Models 1 and 2.

For Ghana, the findings in Table 7.18 show that consumer spending is a positive long-run and short-run determinant of import demand in Models 1 and 2, but only a positive short-run determinant in Model 3. It is found that foreign exchange reserves is a negative long-run and short-run determinant in Model 1, and only a negative and positive long-run determinant in Models 2 and 3, respectively. Exports of goods and services is found have a positive long-run and short-run impact in Model 1, and only a positive short-run determinant in Models 3 and 4. The results confirm that investment spending is a positive long-run determinant in Model 3, while it has no effect in Models 1, 2 and 4. Relative import price is a negative long-run and short-run determinant in Model 2 and only a negative long-run determinant in Model 4, whilst it is not a determinant in Models 1 and 3. Trade liberalisation policy is found be a negative long-run determinant in Model2, whilst it has no effect in Models 1, 3 and 4. The results confirm that government spending is a positive long-run determinant in Model 3, but has no effect in Models 1, 2 and 3.

In the case of Tanzania, the results presented in Table 7.18 show that exports of goods and services is a positive long-run and short-run determinant in Models 1 and 4, while it is only a positive long-run determinant in Model 3 and has no effect in Model 2. Trade liberalisation policy appears to be a negative long-run and short-run determinant in Models 1 and 2, and only a negative short-run determinant in Model 3, while it has no effect in Model 4. Investment spending is found to be a positive long-run and short-run determinant in Model 1, only a negative short-run determinant in Model 4, whilst it has no effect in Models 2 and 3.

In summary, the results confirm that investment spending and exports of goods and services are positive determinants of aggregate import demand across all the three countries. Furthermore, foreign exchange reserves is found to be a negative determinant of import demand in South Africa and Ghana.

7.4 Conclusion

In this chapter the focus was on estimating the models on the determinants of aggregate and disaggregate import demand in the three study countries, that is, South Africa, Ghana and Tanzania. The models are specified in Chapter 6. The first section provided the unit root results. The unit root tests were conducted using three techniques, that is, Dickey Fuller Generalised Square (DF-GLS), Phillips Perron (PP), and the Kwiatkowski, Phillips,

Schmidt and Shin (KPSS) tests. The results from the three methods confirmed that none of the employed variables is integrated of order 2 or higher. Having found this, the study proceeded to examine the co-integration among the variables in each model for each of the study countries. Co-integration results confirmed the existence of a stable long-run relationship between the variables. Having established cointegration in all the models for all countries, the study moved to the estimation of long-run and short-run coefficients of all the models (Model 1 to Model 4). To estimate this, the study employed the autoregressive distributed lag (ARDL) bounds testing approach.

In the case of South Africa, the results for Model 1 show that aggregate import demand is positively determined by investment spending, consumer spending and relative import price, both in the long run and short run, while government spending is a negative determinant both in the long run and short run. Foreign exchange reserves is a negative determinant only in the long run. The results show that trade liberalisation is a positive and negative determinant of aggregate import demand in the long run and short run, respectively. Trade liberalisation policy in the previous period and exports of goods and services in the previous period are found to be respective negative and positive determinants only in the short run. For Model 2, the results show that import demand of consumer goods is positively determined by trade liberalisation policy in the long run and foreign exchange reserves in the short run, while import demand of trade liberalisation in the previous period is a negative determinant in the short run. The long-run results for Model 3 indicate that import demand of intermediate goods is positively determined by government spending, consumer spending and trade liberalisation policy, but negatively determined by relative import price. In the short run, the results confirm that exports of goods and services is a positive determinant, while foreign exchange reserves are a negative determinant. For Model 4, it is found that foreign exchange reserves are a positive determinant of import demand for capital goods, both in the long run and in the short run. The findings also show that relative import price and exports of goods and services are positive determinants in the long run and short run, respectively. The results further confirm that exports of goods and services is a positive determinant of import demand for capital goods only in the long run, while import demand for capital goods in the previous period is only a short run determinant, respectively.

In Ghana, the results for Model 1 revealed that aggregate import demand is positively determined by exports of goods and services and consumer spending, but negatively determined by foreign exchange reserves, both in the long run and short run. Investment

spending is found to be a positive determinant only in the short run. The results for Model 2 confirm that consumer spending is a positive determinant of import demand for consumer goods both in the long run and short run. While relative import price is a negative key determinant. Foreign exchange reserves and trade liberalisation policy are found to be negative determinants only in the long run. For Model 3, the results showed that consumer spending, government spending, investment spending and foreign exchange reserves are positive long run determinants, while exports of goods and services and trade liberalisation policy in the previous period are positive short-run determinants. The findings for Model 4 confirm that relative import price is a negative long run determinant of import demand for capital goods, while exports of goods and services and trade liberalisation policy in the previous period are positive short-run determinants.

In the case of Tanzania, the results for Model 1 confirm that exports of goods and services and investment spending are positive determinants of aggregate import demand for goods and services, both in the long run and short run. While trade liberalisation policy is a negative long-run and short-run determinant. For Model 2, consumer spending and foreign exchange reserves are positive long-run and short-run determinants of aggregate import demand, while trade liberalisation policy is a negative long-run and short-run determinant. It is found that import demand of consumer goods in the previous period is a positive determinant of import demand, only in the short run. In Model 3, the long-run findings suggest that import demand of intermediate goods is positively determined by exports of goods and services only in the long run. The findings further show that import demand of intermediate goods in the previous period and trade liberalisation policy are positive and negative short-run determinants, respectively. For Model 4, the results suggest that import demand for capital goods is positively determined by exports of goods and services both in the long run and short run, while negatively determined by investment spending only the short run.

CHAPTER 8

CONCLUSIONS AND POLICY IMPLICATIONS

8.1 Introduction

This chapter concludes the study on the determinants of aggregate and disaggregate import demand. It provides a summary of the study, the key findings, and draws conclusions based on the findings. This chapter further presents the policy implications of the study and highlight further areas of research. It is divided into five sections. Section 8.2 presents a summary of the study, and Section 8.3 summarises the key results. Section 8.4 gives the main conclusions from the study and provides policy implications thereof, while Section 8.5 presents the limitations of the study and highlights areas for further research.

8.2 Summary of the study

The main objective of this study was to examine the key determinants of aggregate and disaggregate import demand in three selected African countries, namely, South Africa, Ghana and the United Republic of Tanzania, over the period from 1985 to 2015. The specific objectives of the study were to: (i) examine the structure and evolution of import performance and trade policies for the three selected African countries; (ii) empirically investigate the key factors that drive aggregate and disaggregate import demand in three selected African countries; (iii) empirically examine the long-run and short-run relationship between import demand and its determinants in the three selected African countries; (iv) examine whether the determinants of import demand differ from country to country and are dependent on the import category used; and (v) draw policy implications and recommendations based on the empirical findings of the study.

To meet these objectives, the study first reviewed country-focused literature for each of the three countries. The key observation from these reviews was that all three countries have gone through several trade policy reforms and have embraced trade liberalisation. Thereafter, the study reviewed both theoretical and empirical literature on the determinants of import demand. The reviewed theories of import demand included the imperfect substitution theory which was developed by Paul Krugman (1980), the Keynesian theory by Keynes *et al*. (1952), neo-classical theory by Ricardo (1817), and monetarist theory by Friedman (1950). Reviewed empirical literature provided no consensus on the key determinants of import demand, as the findings from the different studies varied.

The study estimated four empirical models for each of the countries in question, with Model 1 being on the determinants of aggregate import demand, while Models 2 to 4 were on the determinants of disaggregate import demand. The disaggregate import demand models included the determinants of import demand for consumer goods, for intermediate goods and for capital goods, respectively. The four models included foreign exchange reserves (FR), trade liberalisation policy (TL), exports of goods and services (EX), investment spending (INV), government spending (GE), consumer spending (CE) and relative import price, as explanatory variables.

To empirically examine the determinants of import demand in all three countries and four models, a number of econometric tests were carried out. Unit root tests were conducted using three techniques, that is, Dickey Fuller Generalised Square (DF-GLS), Phillips Perron (PP), and the Kwiatkowski, Phillips, Schmidt and Shin (KPSS) tests. To test for cointegration the study employed the autoregressive distributed lag bounds (ARDL) testing approach. The error-correction based ARDL model was used to estimate the long-run and short-run determinants of import demand.

8.3 Summary of the empirical findings

The empirical findings in this study showed that the determinants of import demand and their effects vary depending on the country and the import category used as a proxy.

1. The results from Model 1 (aggregate import demand) showed that in the case of South Africa, investment spending, consumer spending and relative import price have a positive impact on aggregate import demand, both in the long-run and in the short run, while government spending has a negative impact. The finding confirmed that trade liberalisation policy has a positive impact on aggregate import demand in the long-run, and a negative impact in the short run. The study also found that foreign exchange reserves have a negative impact on aggregate import demand in the long run. For Ghana, the findings revealed that exports of goods and services, investment spending, and consumer spending have a positive impact on aggregate import demand, both in the long-run and in the short run, while the foreign exchange reserves variable has a negative impact. In the case of Tanzania, the findings showed that exports of goods and services and investment spending have a positive impact on aggregate import demand, both in the long run and in the short run, while trade liberalisation policy has a negative impact. The positive effect of consumer spending, exports of goods and services, investment spending, trade liberalisation policy and relative import price is consistent with findings

in previous studies such as Tang (2003), Muhammad and Zafar (2016), and Zhou and Dube (2011). On the other hand, the negative effect of trade liberalisation policy and foreign exchange reserves is supported by other studies such as Samuel (2015).

2. For Model 2 (import demand for consumer goods), the findings confirmed that in the case South Africa, trade liberalisation policy has a positive impact on import demand for consumer goods in the long run, while foreign exchange reserves have a positive impact in the short run. In the case of Ghana, the results showed that consumer spending has a positive impact on import demand for consumer goods both in the long run and in the short run, while relative import price has a negative impact. The findings also confirmed that foreign exchange reserves and trade liberalisation policy have a negative impact on import demand for consumer goods only in the long run. The results for Tanzania confirmed that foreign exchange reserves and consumer spending have a positive impact on import demand for consumer goods both in the long run and in the short run, while trade liberalisation policy has a negative impact. The positive effect of foreign exchange reserves, trade liberalisation policy and consumer spending is in line with the results from previous studies such as Samuel (2015) and Afzal (2017), while the negative effect of foreign exchange reserves, relative import price and trade liberalisation policy on import demand is echoed in Tirmazee and Naveed (2014) and Samuel (2015).

3. For Model 3 (import demand for intermediate goods), the findings showed that in the case of South Africa, government spending, consumer spending and trade liberalisation policy have a positive impact on import demand for intermediate goods both in the long run and in the short run, while relative import price has a negative impact. For Ghana, the results showed that investment spending and government spending have a positive impact on import demand for intermediate goods, both in the long run and in the short run. The findings further showed that foreign exchange reserves, consumer spending and relative import price have a positive impact only in the long run. In the case of Tanzania, the study found that export of goods and services has a positive impact on import demand for intermediate goods in the long run, while trade liberalisation policy was found to have a negative impact both in the long-run and in the short-run. The positive effect of consumer spending, investment spending, government spending, export of goods and services, foreign exchange reserves and relative import price is in

line with findings in Chani *et al.* (2011), Alias *et al.* (2001), Dube (2011), Gumede (2000), Chen (2008), Bathalomew (2010) and Zhou and Dube (2011). On the other hand, the negative effect of relative import price finds support in Samuel (2015)

4. For Model 4 (import demand for capital goods), the findings for South Africa showed that foreign exchange reserves have a negative impact on import demand for capital goods both in the long run and in the short run. The results also showed that relative import price has a positive impact on import demand for capital goods only in the long run, while export of goods and services has a positive impact only in the short run. In the case of Ghana, the study found that relative import price has a negative impact on import demand for capital goods in the long run, while export of goods and services has a positive impact in the short run. For Tanzania, the findings confirmed that relative import price has a negative impact on import demand for capital goods in the long run, while investment spending has a negative impact in the short run. The findings further confirmed that export of goods and services has a negative impact on import demand for capital goods only in the short run. The positive impact of relative import price and export of goods and services is supported by studies such as Alias *et al.* (2001), while the negative effect of investment spending, foreign exchange reserves and relative import price is consistent with findings in Chani *et al.* (2011).

8.4 Conclusions and policy implications

Based on the findings of this study, this section presents the following conclusions and recommendations:

1. The results confirmed that in the case of South Africa, investment spending has a positive impact on aggregate import demand both in the long run and in the short run. However, this variable was found to have no significant impact on the remaining import categories. For Ghana, the results revealed that investment spending has a positive impact on aggregate import demand and import demand for intermediate goods both in the long run and in the short run. However, this variable was found to have no significant impact on the rest of the import categories. The findings showed that in the case of Tanzania, investment spending has a positive impact on aggregate import demand both in the long run and in the short run. However, this variable was found to have a negative impact on import demand for capital goods in the long run, while it has no significant impact on the rest of the import categories. The positive impact of investment spending

on various categories of imports in South Africa, Ghana and Tanzania indicates that economic policies aimed at stimulating capital formation in these countries encourage import demand. On the other hand, the negative impact of this variable indicates that economic policies on capital formation discourage import demand. It is therefore recommended that policymakers, specifically in South Africa and Ghana should ensure that their imports are primarily intermediate and capital goods in order to ensure that imports boost economic growth. Furthermore, it is recommended that the three countries should design fiscal policies in a manner that stimulates import substitution, creates domestic production capacity and discourages consumption-oriented imports.

2. The results confirmed that in the case of South Africa, export of goods and services has a positive impact on import demand for capital goods in the short run. However, this variable was found to have no significant impact on the remaining import categories. In the case of Ghana, the results showed that export of goods and services has a positive impact on aggregate import demand, both in the long run and in the short run. The variable was also found to have a positive impact on import demand for capital goods in the long run, but insignificant impact on the remaining import categories. The results showed that in Tanzania, export of goods and services has a positive impact on aggregate import demand both in the long run and in the short run. The results also showed that this variable has a positive impact on import demand for intermediate goods in the long run, and a positive impact on import demand for capital goods in the short run. However, results showed that export of goods and services has no significant impact on import demand for consumer goods in Tanzania. The positive impact of export of goods and services on various categories of imports in South Africa, Ghana and Tanzania indicates that economic policies regulating the export of goods and services encourage import demand. It is recommended that policymakers in Ghana and Tanzania should strengthen their countries' macroeconomic policies to ensure that their imports lead to improved economic performance and are not consumption driven. Furthermore, it is important for all three countries to ensure that domestic capacity for production of intermediate goods and capital goods is developed, in order to keep imports low and to prevent increasing trade deficits.

3. The results confirmed that in the case of South Africa, consumer spending has a positive impact on aggregate import demand and import demand for intermediate goods, both in the long run and in the short run. However, this variable had no significant impact on the remaining import categories. In the case of Ghana, the findings showed that consumer spending has a positive impact on aggregate import demand and import demand for consumer goods, both in the long run and in the short run. The results also showed that this variable has a positive impact on import demand of intermediate goods in the long run but has no significant impact on import demand for capital goods. For Tanzania, the results showed that consumer spending has a positive impact on import demand for consumer goods in the long run and in the short run. However, the variable had insignificant impact on the remaining import categories. The positive impact of consumer spending on different import categories in the three countries suggests that an increase in consumer spending leads to a rise in import demand. It is therefore important for policymakers in these countries to design fiscal policies in a manner that creates a favourable environment for domestic production of consumer and intermediate goods and stimulates domestic production capacity. To achieve this, government can provide production incentives for local industries to enhance the production capacity for final goods. Furthermore, the positive and significant effect of this variable on import demand indicates the need for these countries to control consumption expenditure when trying to reduce imports.

4. The results showed that in the case of South Africa, government spending has a negative impact on aggregate import demand and a positive impact on import demand for capital goods, both in the long run and in the short run. However, it was found that this variable has insignificant impact on the remaining import categories. In the case Ghana, the results showed that government pending has a positive impact on import demand for intermediate goods, both in the long run and in the short run. However, this variable had insignificant impact on the rest of the import categories. For Tanzania, the findings showed that government spending has insignificant impact on import demand, regardless of the import category. The positive impact of government spending on different import categories in South Africa, Ghana and Tanzania implies that an increase in government spending can lead to an increase in trade deficit. On the other hand, the negative impact of government spending on some import demand categories in South Africa implies that an increase in government spending can lead to an increase in

domestic production, which then substitutes imports. It is therefore recommended that policymakers in these countries pursue fiscal policies that have a stimulating effect on domestic production capacity in to order shield their trade balances.

5. The results showed that in the case of South Africa, trade liberalisation policy has a positive impact on aggregate import demand in the long run, and a negative impact in the short run. Results also showed that this variable has a positive impact on import demand for intermediate goods, both in the long run and in the short run, and a positive impact on import demand for consumer goods in the long run. The findings further showed that trade liberalisation had insignificant impact on import demand for consumer goods in South Africa. In the case of Ghana, the results showed that trade liberalisation has a negative impact on import demand for consumer goods in the long run. However, it has insignificant impact on the remaining import categories. For Tanzania, the findings confirmed that trade liberalisation policy has a negative impact on aggregate import demand, import demand for consumer goods and import demand for intermediate goods, both in the long run and in the short run. However, the variable was found to have insignificant impact on import demand for capital goods. The negative impact of trade liberalisation policy on various import categories in all the three countries implies that trade policy reforms may result in improved domestic production capacity, while the positive impact in South Africa implies that trade liberalisation policy encourages imports, as imports become cheaper. It is therefore recommended that when embarking on trade policy reforms, policymakers should design trade liberalisation policies in a manner that ensures that they minimise imports of goods that can be produced domestically, while making it easy to import capital goods as they have a positive impact on local production capacity. Furthermore, these policies should be designed in a manner that ensures a balanced current account.

6. The findings showed that in the case of South Africa, relative import price has a positive impact on aggregate import demand and a negative impact on import demand for intermediate goods, both in the long run and in the short run. The variable was found to have a positive impact on import demand for capital goods in the long run, while it has insignificant impact on import demand for consumer goods. In the case of Ghana, the findings showed that relative import price has a negative impact on import demand for consumer goods, both in the long run and in the short run. The study also found that this

variable has a positive impact on import demand for intermediate goods and a negative impact on import demand for capital goods in the long run. However, relative import price was found to have insignificant impact on aggregate import demand. For Tanzania, the results confirmed that relative import price has a negative impact on import demand for capital goods in the long run. However, this variable was found to have insignificant impact on all other variables. The negative impact of relative import price on various import categories in the three countries implies that an increase in this variable leads to a decrease in import demand, as it makes imports more expensive. However, a positive impact implies that an increase in relative import price leads to an increase in import demand. This could mean that high cost of production makes it difficult to implement import-substitution policy for some products, thus making importing unavoidable. The positive impact also implies that relative import price may not be a suitable policy instrument to regulate import demand and reduce trade deficits. Therefore, it is recommended that, in addition to tariff changes, South Africa and Ghana should develop policies that stimulate domestic production, particularly for consumer goods.

7. The results showed that in the case of South Africa, foreign exchange reserves have a positive impact on import demand for consumer goods in the short run, and a negative impact on aggregate import demand in the long run. This variable was also found to have a negative impact on import demand for capital goods, both in the long run and short run, while it has an insignificant impact on import demand for intermediate goods. In the case of Ghana, the findings showed that foreign exchange reserves have a positive impact on import demand for intermediate goods and a negative impact on import demand for capital goods in the long run. This variable was also found to have a negative impact on aggregate import demand, both in the long run and in the short run, while it has no significant impact on import demand for capital goods. In the case of Tanzania, the results confirmed that foreign exchange reserves have a positive impact on import demand for consumer goods, while it has insignificant impact on the remaining import categories. The positive impact of foreign exchange reserves on various groups of import in these countries implies that an increase in this variable leads to an increase in import demand. However, the negative impact implies that an increase in foreign exchange reserves leads to a decrease in import demand. It is therefore recommended that policymakers take this factor into consideration when designing import substitution policies, as it can be used to stimulate local production and reduce import demand.

8.5 Limitations of the study and areas for further research

Although efforts have been made to ensure that the study is as empirically defensible as possible, like other studies, it may still suffer from a few limitations.

The first limitation is that the study suffers from the problem of data unavailability. The study used annual data covering the period 1985 to 2015, which translates to 30 observations. The selection of this period was based on the availability of data for both dependent and explanatory variables. For aggregate import demand and income components, annual data was available for the period before 1985 across all the three countries, however, this was not the case with disaggregate import demand. For Ghana and South Africa, data on disaggregate import demand was available for the period before 1985, but it was not available in the case of Tanzania. The unavailability of data has also affected the measures used for each of the employed variables. For example, some of the previous studies have used a direct measure of relative import price, which could not be used in this study since data was not readily available. Future studies of this nature can examine the determinants of import demand for these countries using data covering a longer period, when data becomes available. It would be pertinent to compare the results from those studies with the findings in this study.

Secondly, the study used annual time-series data, which has been found to have some weaknesses for some variables, relative to quarterly data. The use of annual data was due to unavailability of quarterly data for consumer spending, government spending, investment spending, foreign exchange reserves and export of goods and services across all the three countries. Also, quarterly data was available for aggregate and disaggregate imports in South Africa and Ghana, but was not available in the case of Tanzania. Literature also suggests other equally important variables that could have been included in the study but were not included due to data unavailability. It would therefore be useful to see a similar study on the same subject for all the three countries, using quarterly data.

Lastly, the study examined the key determinants of import demand but did not examine the causality between import demand and its determinants because the original scope of the study was only to determine the key determinants. Future studies of this nature may explore whether there is a feedback effect between these variables.

These limitations may have affected the empirical results presented in this study, however, their impact is assumed to be minimal and of insignificant influence to the empirical findings presented herein.

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