IMPACT OF THE SPAGHETTI BOWL IN REGIONAL TRADE AGREEMENTS ON TRADE FLOWS IN EASTERN AND SOUTHERN AFRICA: CASE OF MALAWI IN COMESA AND SADC

MASTERS OF ARTS (ECONOMICS) THESIS

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ELIAS ELLIAS TSOKALIDA

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Thesis Submitted to the Department of Economics, Faculty of Social Science, in Partial Fulfillment of the Requirements for a Masters of Arts Degree in Economics.

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AUGUST, 2014

DECLARATION

I, the undersigned, hereby declare that this thesis is my own original work which has not been submitted to any other institution for similar purposes. Where other people's work has been used, acknowledgements have been made.

_____

Name

_____

Signature

_____

Date

CERTIFICATE OF APPROVAL

The undersigned certify that this thesis represents the student's own work and effort, and has been submitted with our approval.

Signature: _____Date:_____

E.B.D. Silumbu, PhD (Dr.)

Supervisor

DEDICATION

I dedicate this work to my wife, Flora, for being there all times and giving me courage to never give up. To my sisters, Sarah and Jezel, you never stop amazing me with your support and jokes. I salute mom and dad for your wise inspiration all the time. To my nephews, Nick, Dennes, Twitike, Kai, and Kivan, I pray and believe that one day you will be the ones.

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Last but not least, I thank the Lord my God who gave me wisdom, strength and power to accomplish this programme.

ABSTRACT

The spaghetti bowl hypothesis states that multiple and overlapping memberships in Free Trade Agreements (FTAs) is problematic globally including on African continent. Malawi is a founding member of two regional blocs namely: the Common Market for Eastern and Southern Africa (COMESA) and the Southern Africa Development Community (SADC). According to the spaghetti bowl hypothesis, a country will turn its own trade creation into a trade diversion by belonging to two or more FTAs, through transaction costs which come with memberships in all these blocs, hence slowing down integration process. This study made an analysis of the impact of this spaghetti bowl on Malawi's trade flows using both imports and exports as dependent variables for a period of 1997 to 2012. However, contrary to expected results, there is a positive relationship between spaghetti bowl and Malawi's imports and exports. This means that Malawi does not have to worry about the spaghetti bowl, but strategize on how best it can maximize its benefits.

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ACRONYMNS

AEC	:	African Economic Community
AMU	:	Maghreb Arab Union
APEC	:	Asian Pacific Economic Cooperation
CBI	:	Cross Border Initiative
CEMAC	:	Communauté Économique et Monétaire de l'Afrique Centrale / Economic and Monetary Community of Central Africa
CEN- SAD	:	Economic Community of Sahel Saharan States
CEPGL	:	Economic Community of the Countries of the Great Lakes
CET	:	Common External Tariff
COMESA	:	Common Market for Eastern and Southern Africa
CU	:	Customs Union
EAC	:	Eastern African Community
EBA	:	Everything But Arms
ECCAS	:	Economic Community for Central African States
ECOWAS	:	Economic Community of Western African States
EPA	:	Economic Partnership Agreement
EU	:	European Union
FTA	:	Free Trade Agreement
GATT	:	General Agreement on Tariff and Trade
GDP	:	Gross Domestic Product
IGAD	:	Intergovernmental Authority on Development
IOC	:	Indian Ocean Commission

IPR	:	Intellectual Property Rights
LDC	:	Least Developed Countries
MRU	:	Mano River Union
NAFTA	:	North American Free Trade Area
OAU	:	Organization of the African Union
PTA	:	Preferential Trade Agreement
RTA	:	Regional Trade Agreements
SACU	:	Southern African Customs Union
SADC	:	Southern Africa Development Community
TFTA	:	Tripartite Free Trade Areas
TRIPS	:	Trade Related Aspects of Intellectual Property Rights
UDEAC	:	Union Douanière et Économique de l'Afrique Centrale /Central Africa Customs and Economic Union
UEMOA	:	West African Economic and Monetary Union
UNECA	:	United Nations Economic Cooperation for Africa
USA	:	United States of America
WAEMU	:	West Africa Economic and Monetary Union
WTO	:	World Trade Organization

CHAPTER ONE

INTRODUCTION

1.0 Background

The term “Spaghetti Bowl” was first used by Jagdish Bhagwati in his paper entitled "*U.S. Trade Policy: The Infatuation with Free Trade Agreements*[1]". In his paper, Bhagwati emphasized that the policy of expansion of Free Trade Areas (FTAs), instead of concentration on multilateralism at World Trade Organization (WTO) was a huge mistake. He believed that FTA is just “Orwellian newspeak” meaning that the term FTA is there to lull people into focusing only on the fact that trade barriers are lowered for members to the exclusion of the fact that, implicitly, the barriers are raised relatively for non-members. This means that FTAs are two-faced in that they embody free trade and protectionalism, hence intrinsically preferential and discriminatory. It is for this reason that he termed FTAs as Preferential Trade Agreements (PTAs).

It is very clear that an increase in such PTAs by different countries creates what he termed the "spaghetti bowl", where there is massive occurrence of crisscrossing of trade agreements which are likened to strands of spaghetti tangled in a dish or a bowl.

[1]The paper was published in a book by Bhagwati and Anne Krueger entitled “***The Dangerous Drift to Preferential Trade Agreements****”.* In this paper, Bhagwati makes reference to USA’s continued desire to expand the North America Free Trade Area (NAFTA) as well as the Asia Pacific Economic Cooperation (APEC) while at the same time belonging to World Trade Organization (WTO). Bhagwati also published another book in 2008 entitled “***Termites in the Trading System: How Preferential Agreements Undermine Free Trade***” where he highlights his argument against PTAs.

Because every country negotiates different trading terms in each particular PTA with every other different country, each with their own loopholes, exceptions, and particular regulations, this collectively turns trade into crisscrossing PTAs, where it is normal for a nation to belong to two or more PTAs, with each partner nations having its own chain of PTAs (Bhagwati and Panagiriya, 1996). Bhagwati mentions that a country may experience the spaghetti bowl when it belongs to two or more RTAs and the fact that each will in turn negotiate its own PTAs separately highlights the crisscrossing of trade agreements hence instead of trade creation, these FTAs will lead into trade diversion.

The "spaghetti bowl" is prevalent across all continents of the world. Africa's spaghetti bowl is considered very unique with more than 95% of African countries belonging to more than one regional trade agreement (RTA) according to United Nations Economic Commission of Africa (UNECA) report of 2005. Africa's spaghetti bowl has been as a result of African countries desire to connect and deepen regional integration within the region as it has been part of Africa's strategy for economic transformation since the first integration attempt in 1910[2]. The drive for African integration peaked with the establishment of the Organization of the African Union (OAU) in 1963 after which African leaders articulated an ambitious vision of an African integrated economy whose pinnacle was the ratification of the Abuja Treaty in 1994 (UNECA, 2004).

African countries are vigorously pursuing regional co-operation and integration as a strategy to achieve sustainable economic growth and development as well as to be

[2]The Southern African Customs Union (SACU) is the oldest still existing customs union in the world between the then Union of South Africa and the High Commission Territories of Bechuanaland (now Botswana), Basutoland (now Lesotho), South West Africa (now Namibia) and Swaziland. In addition to this, the East African Commission (EAC) traces its origins to as early as 1917 as a customs union between Kenya and Uganda, which the then Tanganyika later joined in 1927. This was followed by the formation of the East African High Commission (1948-1961); the East African Common Services Organization (1961-1967); the East African Community (1967-1977) and the East African Co-operation (1993-2000).

effective players in the global market. However, the pace of integration has been slow and progress has been mixed. Cognizant of the slow pace of a continent-wide integration, the African leadership provided a framework under which the integration agenda would be carried out as enshrined in the Abuja treaty establishing the African Economic Community (AEC). Under the framework of the treaty, Africa would become an economic union by 2027, with a common currency, full mobility of the factors of production and free trade within the continent. In order to achieve this vision, the treaty[3] that was signed commits Africa to implement integration process within a period of thirty-four years (1994-2027), in six different stages of varying duration.

Recently, during the golden jubilee cerebrations, the African Union (AU) set up the "Agenda 2063: The Africa We Want" in which Africa highlighted its aspirations for an Africa that takes its rightful place in the world, and bringing together into one framework the continental, regional and national plans under the time frames 2025, 2037, 2050 up to 2063 (Zuma, 2014).

Many other efforts were made to jumpstart regional integration in Africa. At the AU Summit in Banjul, the Gambia, in July 2006, it was decided that focus should be on only eight main Regional Economic Communities (RECs) namely: Common Market for Eastern and Southern Africa (COMESA); Southern African Development Community (SADC); East African Community (EAC); Economic Community for West African States (ECOWAS); Economic Community for Central African States (ECCAS); Economic Community for Sahel-Saharan States (CEN-SAD); Intergovernmental

[3]The Constitutive Act and the Sirte Declaration that transformed the Organization of African Unity (OAU) into the African Union (AU) was signed and ratified on 9th September, 1999.

Authority on Development (IGAD); and Arab Magreb Union (AMU). Table 1.1 below shows eight main and other minor RECs.

Table 1.1: Africa's RTAs

Main RTAs	Member states
AMU	Algeria, Morocco, Tunisia, Libya, and Mauritania
CEN-SAD	Benin, Burkina Faso, Central African Republic, Chad, Côte d'Ivoire, Comoros, Djibouti, Egypt, Eritrea, Equatorial Guinea, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Libya, Mali, Morocco, Niger, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, Sudan, Togo, and Tunisia
COMESA	Burundi, Comoros, Democratic Republic of Congo, Djibouti, Arab Republic of Egypt, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, South Sudan, Sudan, Swaziland, Uganda, Zambia, and Zimbabwe
EAC	Burundi, Kenya, Rwanda, Tanzania, and Uganda
ECCAS	Angola, Burundi, Cameroon, the Central Africa Republic , Democratic Republic of Congo, the Republic of Congo, Chad, Equatorial Guinea, Gabon, and Sao Tome and Principe
ECOWAS	Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, the Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo
IGAD	Djibouti, Eritrea, Ethiopia, Somalia, Sudan, South Sudan, Kenya, Uganda
SADC	Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe

Source: Authors compilation from AU website and respective RTA's websites

Though there has been such fundamental efforts to jumpstart and accelerate the rate of regional integration in Africa, progress still remains slow. There has been much talk in high level meetings among African leadership on slow progress resulting from overlapping membership or the spaghetti bowl in RTAs by member countries. This study

aims at underpinning this impact with particular focus on trade flows. Focus for this study will be on two RTAs in Eastern and Southern Africa namely: COMESA and SADC with a case study of Malawi being a member of both. After assessing the impact of this spaghetti bowl on Malawi's trade flows, this study will also assess whether Malawi benefits more under the South-South Cooperation framework by trading with countries from either COMESA or SADC or through its trade under the framework of the North - South Cooperation by trading with countries which belong to the European Union (EU).

1.1 Problem Statement

Research on African spaghetti bowl has indicated that this pose a challenge on the African continent's objective of creating the AEC. Many African leaders believe the spaghetti bowl has a negative impact on trade flows and such talk has dominated African debates in high level meetings over the last years (UNECA, 2004). A number of studies have been conducted analyzing the impact of the spaghetti bowl for example (Afesorgbor and Bergeij, 2011) and (Fergin, 2011). However, little attention has been given on its impact on specific countries' trade creation. In relation to Africa, studies have been general and have treated Africa as a country and not as a continent with 54 countries of different characteristics. No single study has focused on the impact that the spaghetti bowl can have on a single country.

In other cases, there has been no empirical study on the spaghetti bowl yet the studies have made strong recommendations on its effect on trade flows for example (Gathii, 2009). Further to this, in most of the studies conducted, trade with developed countries under the North-South Framework has been given little attention.

Looking at all these gaps, this study intends to examine and assess further the impact of the spaghetti bowl on Malawi's trade flows with a case of Malawi belonging to both COMESA and SADC. It aims at making a country specific study that can also be applied to other countries that face the spaghetti bowl on the African continent. Apart from analyzing the impact of the spaghetti bowl on Malawi trade flows, the study also analyses trade creation effects of both COMESA and SADC on Malawi under South-South Cooperation and makes a benchmark comparison with the EU under the framework of the North-South Cooperation.

1.2 Objectives

The main objective of this study was to assess the impact of the spaghetti bowl on Malawi's trade flows with a case of Malawi belonging to both COMESA and SADC.

The specific objectives of this study are as follows:

1. To assess whether there is trade creation as a result of Malawi belonging to either COMESA or SADC; and
2. To assess and compare the contribution of EU under North-South Cooperation to that of COMESA and SADC under the frameworks of South –South Cooperation.

1.3 Testable Hypothesis

The testable hypotheses for this study are:

1. Spaghetti bowl has a negative impact on Malawi's trade flows; and
2. There is trade creation from COMESA and SADC ; and
3. There are more gains for Malawi trading in COMESA and SADC than with EU.

1.4 Significance of study

Much has been said about Malawi belonging to both COMESA and SADC and the important choice that Malawi needs to make to choose one RTA. However, there is no empirical study that has tested the impact of the spaghetti bowl on Malawi's trade flows. By focusing on Malawi in both COMESA and SADC, this study aims at filling up this gap. This knowledge will be used by scholars, researchers and policy makers at national, regional and international levels in order to make an informed decision. This study aims at enhancing knowledge of regional integration as well as effects of multiple memberships on individual countries to the academic field. It further is targeting policy makers to improve their competence, with regard to issues and challenges of regional integration. This study will serve as reference point or guide in analyzing regional integration issues. The study can also open up areas for further research.

1.5 Outline of thesis

This study is structured into six chapters. Chapter One gives an introduction to this study. Chapter Two provides the overview of spaghetti bowl in Eastern and Southern Africa. Chapter Three outlines literature review and this comprises the theoretical and the empirical literature. Chapter Four discusses the research methodology. Chapter Five discusses the regression results and interpretation; and finally Chapter Six gives the conclusion, outlining the summary of results obtained, policy implications and the limitations of the study.

CHAPTER TWO

EASTERN AND SOUTHERN AFRICA: LINKS BETWEEN SPAGHETTI BOWL AND TRADE DEVELOPMENT

2.0 Introduction

This chapter presents an overview of the effects of the spaghetti bowl on trade flows, with particular focus on Eastern and Southern Africa and a case study of Malawi's membership in COMESA and SADC. Outline of the chapter is as follows: Section 2.1 gives an overview of Malawi in COMESA; 2.2 gives an overview of Malawi in SADC; Section 2.3 provides an overview of Malawi's trade with EU; Section 2.4 gives an overview of Malawi's spaghetti bowl; Section 2.5 examines the potential of the tripartite FTA in solving the spaghetti bowl; and lastly, Section 2.6 summarizes the chapter.

2.1 Overview of Malawi in COMESA

COMESA traces its genesis to the mid-1960s and Malawi is among the founding members. The idea of regional economic co-operation received considerable impetus from the buoyant and optimistic mood that characterized the post-independence period in most of Africa. The mood then was one of pan-African solidarity and collective self-reliance born of a shared destiny. It was under these circumstances that, in 1965, the UNECA convened a Ministerial meeting of the then newly independent states of Eastern

and Southern Africa to consider proposals for the establishment of a mechanism for the promotion of sub-regional economic integration.

The treaty establishing the PTA was signed on 21st December, 1981, in Lusaka, and came into force on 30th September, 1982 after it had been ratified by more than seven signatory states as provided for in Article 50 of the Treaty. The PTA was established to take advantage of a larger market size, to share the region's common heritage and destiny and to allow greater social and economic co-operation, with the ultimate objective being to create an economic community. The PTA was then transformed into a common market, establishing COMESA on 5th November, 1993 in Kampala, Uganda and was ratified on 8th December, 1994, in Lilongwe, Malawi. COMESA was then notified to World Trade Organization (WTO) under the Enabling Clause on 29th June, 1995.

Tables 2.1 & 2.2 below, show key statistics and level of integration that have been achieved by COMESA to the present date.

Table 2.1: Summary of COMESA key statistics

Indicator	**Information**
Member states	19
Total Area	12,873,957 Km square
Total Population	406,102,471 (2005 est)
GDP per Capital	US$1,811

Source: Author from COMESA website

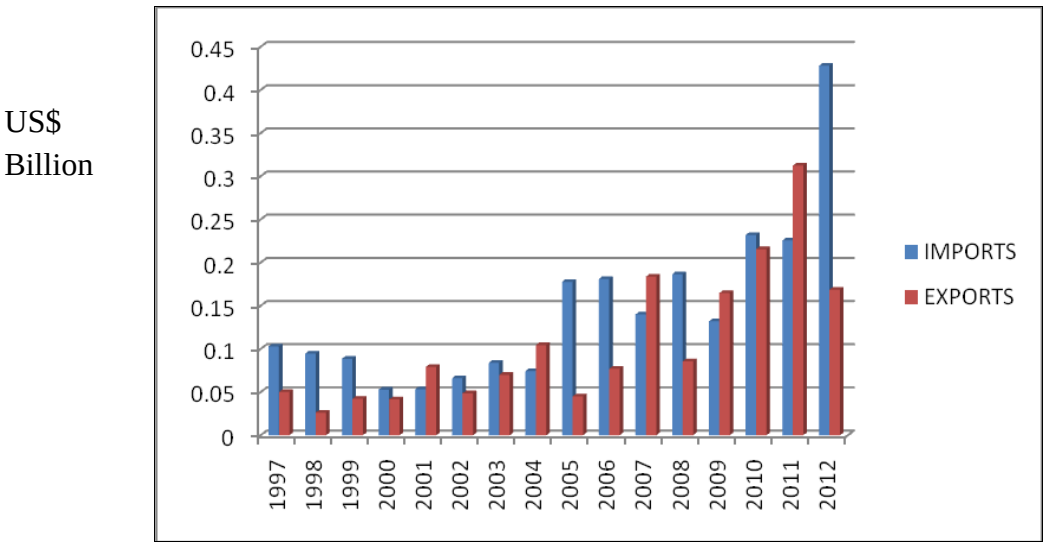
Table 2.2: COMESA time frame of events

Level of Integration	Time frame	Achievement
PTA	1981	Yes
FTA	2000	Yes
Customs Union	2011	Yes

Source: COMESA website (www.comesa.int)

Many studies have concluded that Malawi's trade benefit from COMESA is not fully utilized. Malawi's trade pattern in COMESA is shown in Figure 2.1 ,

Figure 2.1: Malawi's trade pattern in COMESA RTA.



(Years: 1997-2012)

Source: Adopted from COMSTAT COMESA database.

Figure 2.1 above shows Malawi's exports to COMESA RTA in billions of United States of America Dollars (US$) for the period from 1997 to 2012. From the figure above, Malawi's exports to COMESA countries recorded the highest value in 2011

amounting to US$312 million. The lowest was recorded in 1998 with a value of only US$26 million. Malawi's imports from COMESA region recorded the highest value in 2012 of US$428 million. The lowest value was US$52 million in 2000. Malawi recorded a trade surplus from COMESA in 2001, 2004, 2007, 2009, and 2011. In the rest of the years, Malawi's imports were greater than Malawi's exports in COMESA RTA thereby recording trade deficits.

2.2 Overview of Malawi in SADC

SADC was formed on 1st April, 1980, in Zambia, as a loose alliance of nine States in Southern Africa known as the Southern African Development Coordination Conference (SADCC), with the main aim of coordinating development projects in order to lessen economic dependence on the then apartheid South Africa. The founding Member States are: Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe. The transformation of SADCC into a Development Community (SADC) took place on 17th August, 1992 in Windhoek, Namibia. Tables 2.3 and 2.4 below, show summary and integration levels in SADC to the current date.

Table 2.3: Summary of SADC key statistics

Indicator	Information
Member states	15
Land Area	9,882,959 square km
Total Population	233,944,179 people
GDP per capita	US$3,152

Source: Adopted from SADC website

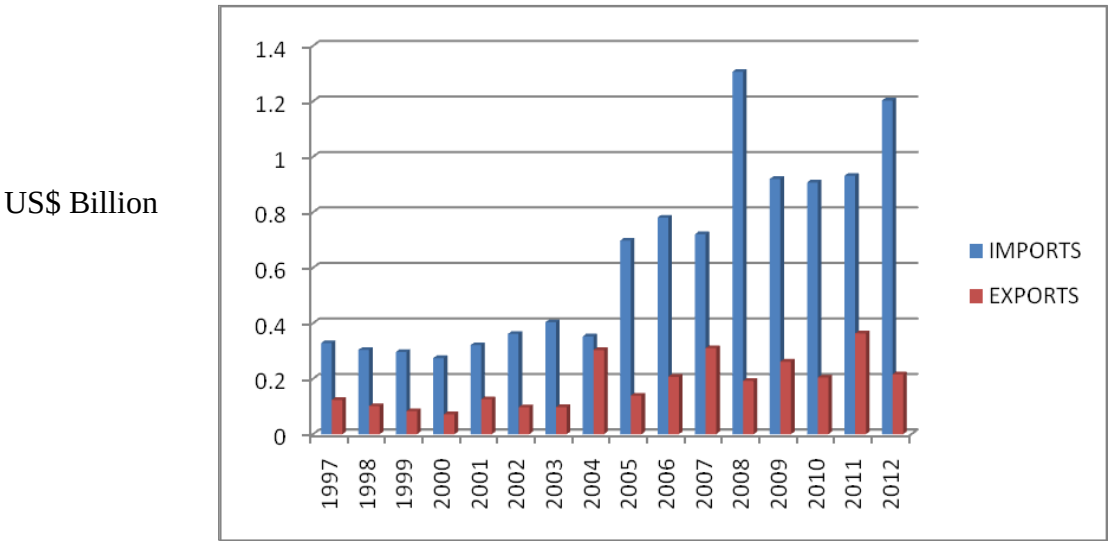
Table 2.4: SADC time frame of events

Level of Integration	Time frame	Achievement
FTA	2008	Yes
Customs Union	2010	Yet to be done
Common Market	2015	Yet to be done
Monetary Union	2016	Yet to be done

Source: SADC website (www.sadc.int)

Many studies are in favour of Malawi's trade in SADC as their results indicate that Malawi's trade benefits in SADC are more promising than in COMESA. Malawi's trade benefit from SADC RTA is shown in Figure 2.2 below.

Figure 2.2: Malawi's Trade from SADC



Years: 1997-2012

Source: Adopted from Malawi Revenue Authority (MRA) data

From Figure 2.2 above, since 1997 to 2012, Malawi has only experienced trade deficits with its SADC trade partners using the SADC rules of origin. The highest value of imports was recorded in 2008 amounting to US$1.3 billion. The lowest value was recorded in 1999 amounting to US$29 million.

2.3 Malawi's Trade with EU

The EU is an important trade partner for countries in the Southern and Eastern African region including Malawi as they have benefited from unilateral preferences into the EU market under the Lomé convention. These preferences have provided them with important market access for agricultural and other export goods, though they are considered incompatible with WTO rules, since the "Enabling Clause" in the General Agreement on Trade and Tariff (GATT) does not allow unilateral preferences that discriminate between groups of developing countries, except in favor of Less Developed Countries (LDCs).

Since preferences granted to the Asia Caribbean Pacific (ACP) countries are neither available to all developing countries nor restricted to just LDCs, the Cotonou agreement, concluded in 2000, requires all ACP countries to negotiate WTO compatible EPAs with the EU to replace unilateral preferential arrangements by end 2007. The EPAs involve reciprocal market access into the ACP countries for the EU with a possible transition period of 10 to 12 years for the phasing out of trade barriers between the parties in accordance with GATT Article XXIV. The EPAs have a development focus in that they assist ACP countries in enlarging their markets by improving the predictability and transparency of the regulatory framework for trade and creating conditions for increased investment.

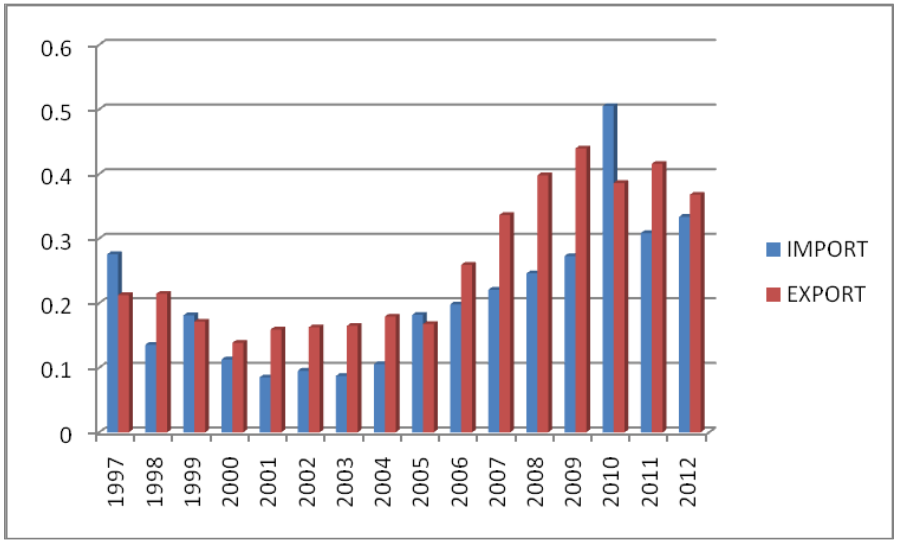
In this context, the EU has placed strong emphasis on South-South integration through reinforcing existing regional integration initiatives, harmonization of rules and creation of customs unions (Keck and Piermartini,2005),. Negotiations are being conducted with RTAs instead of individual countries. Malawi negotiates the EPAs through COMESA, though they are strong calls for Malawi to belong to one RTA in order to maximize its benefits. However, Malawi expects to benefit from EU market access under the "Everything But Arms" (EBA) initiative.

An important issue to be negotiated is the level of market access offered to the EU in reciprocity. Since the EU has committed to an asymmetric approach in terms of product coverage and transition periods, it is likely that African countries will not be required to liberalize all sectors and will be allowed a reasonable transition time. In order to be compatible with WTO rules (GATT, Article XXIV), the agreement will require the reciprocal liberalization of all trade by African countries as the EU has expressed its ambition that over 90 percent of trade will be covered over the long term.

However, the interpretation of this provision leaves considerable room for uncertainty and countries in the region are likely to push for exclusion of a greater number of products from the agreement. It has been pointed out that even if the agreement were to liberalize 90 percent of trade, African countries could potentially end up without liberalizing most of their important domestic sectors because with current high tariffs, imports in the important sectors might be small. The EBA, which took effect in March 2001, grants 48 LDCs duty free access to EU markets for all goods except weapons and armaments, for an unlimited time period, and without any quantitative restrictions. Below is a figure showing Malawi's trade with EU.

Figure 2.3: Malawi Trade with EU

US$ Billion



Years: 1997-2012

Source: Adopted from World Bank World Integrated Trade Solutions (WITS) database

From Figure 2.3, Malawi's trade pattern with EU countries varied from trade deficit to surplus. Malawi registered a trade deficit with EU countries in 1997 and 2010. The highest value of imports was in 2010 registering US$505 million. The lowest value of imports was in 2001 which recorded US$85 million. The highest value of exports was recorded in 2009 totaling US$440 million. The lowest value of exports was recorded in US$139 million.

2.4 Malawi's Spaghetti Bowl

Multiple memberships reflect the desire of countries to pick and choose various options offered by competing RTAs. Different RTAs offer different benefits to members beyond the goals of provision of the reduction or removal of tariff barriers and the

harmonization of trade policies. Analyzing African RTAs as regimes adds to the argument that countries that are members of more than one RTA may well regard treaties establishing respective RTAs as providing a framework for cooperation but not necessarily as creating binding obligations (Gathii, 2009). For these countries multiple memberships in RTAs offers them flexibility and adaptability since member states can retain their sovereignty and accrue benefits from multiple regimes otherwise not available through sole membership.

Besides this, regionalism in Africa is often regarded as necessary to aggregate bargaining power to negotiate with powerful trading partners like the EU. Thus for Africa's voice and interests to be heard and promoted, there is need for unification among African countries through integration. However, the search for African unity and regional integration has proved to be a far-fetched dream. Multiple memberships reflect the reality of diversity among African countries and the complexity of their conflicting, overlapping and sometimes congruent interests.

Much as African leadership views the spaghetti bowl as a way of increasing their benefits, it has been criticized as having the potential of a very costly trade diversion. Overlapping memberships make implementation of preferential integration agreements difficult and increase transaction costs in trade through a growing web of agreement rules. Thus the spaghetti bowl might hamper the effect of preferential integration in Africa and have a negative impact on intra-African trade flows.

There are high transaction costs and administrative difficulties of complying with multiple rules of origin (Bhagwati and Panagiriya, 1996). Multiple memberships sap the little trade capacity and budgets of African governments from focusing on a single regional economic bloc. For example, by belonging to both COMESA and SADC,

Malawi has to pay financial contributions to both COMESA and SADC, and attend meetings and activities of both organizations.

Malawi has hosted meetings of both regional blocs which has also been costly. One of the most important features of a customs union is that all the member countries adopt one common external tariff (CET). This raises a major concern with regard to loss of revenue for countries that enjoy monies from tariffs through their various trade interests. In joining a customs union, these countries would be subjected to one CET which could significantly diminish the funds they previously collected through their own agreements. This applies for Malawi. COMESA is already a customs union and members are moving towards implementing the common external tariff. Malawi is already behind schedule with regard to liberalizing its market as it relies mainly on revenue generated from these tariffs.

If SADC goes ahead and implements a customs union, Malawi will lose more revenue to these two regional blocs. There is also a fear that once a country joins a customs union, its trading policy cannot be altered without the consent of the other union members. When a country has membership in two RTA's, two sets of rules of origin need to be applied as well (Baldwin, 2006). Rules of origin specify when a product qualifies for duty-free movement within the signed RTA.

Knowing which rules of origin to follow depending on where commodities originate when involved in various RTA's undoubtedly makes the customs clearance process more complex and delays transactions. Due to the fact that FTAs allow each of their member states to implement its own tariff structure, rules of origin need to be included in agreements involving FTAs in order to prevent transshipment. The overlap among regional blocs tends to dissipate collective efforts towards the common goal of the

AU. It tends to muddy the goals of integration and lead to counterproductive competition among countries and institutions.

2.6 Potential of Tripartite FTA in Eastern and Southern Africa

Despite the large number of ambitious, but ineffectively implemented integration initiatives, member states of SADC, EAC and COMESA have embarked on another ambitious integration programme. With more than 527 million people and a gross domestic product (GDP) of approximately US$ 624 billion, the 26 member countries of the Tripartite make up 57% of the population of the AU and 58% in terms of GDP (UNECA: 2008). This makes the Tripartite vital to the envisaged single market and continental integration of the African Economic Community (AEC). The heads of state and government of the 26 member states of COMESA, EAC and SADC agreed in October 2008 to establish a grand FTA, referred to as Tripartite FTA (TFTA).

The first step was drafting of TFTA agreement with annexes on tariff liberalisation, rules of origin, movement of business persons and dispute resolution, amongst other issues. The tripartite framework derives its basis from the Lagos Plan of Action and the Abuja Treaty establishing the AEC and is deemed to be a strategic response to the AEC's objective to rationalize and consolidate existing RECs with a view to achieving a common market covering the African continent (Willenbockel, 2013).

A larger, more integrated and growing regional market will enhance the interest of foreign investment and provide the basis for enhanced intra-African trade. Unlike more developed regions, Africa has a relatively low level of intra-regional trade. Within this backdrop, it is legitimate to ask whether the TFTA will be any different from its predecessors. The answer to this question lies not in the draft instruments, but in the

outcome of the political process that will begin as member states negotiate the legal instruments of the TFTA. However, there are many important lessons to take from other African RTAs which can contribute to making the TFTA a successful integration arrangement. More importantly, there is need for African countries to be realistic if this is to be implemented.

CHAPTER THREE

LITERATURE REVIEW

3.0 Introduction

This chapter provides a literature review of regional trade agreements. The Chapter is divided into the following areas: Section 3.1 introduces the gains from trade; 3.2 provides theoretical perspectives of regional trade agreements; 3.2 provides empirical literature on regional integration; and 3.3 provides a summary of this chapter.

3.1 Gains from Trade

Though there are different arguments on the basis for trade, different schools of thoughts unanimously agree that overall, countries benefit more with than without trade. Countries trade because they are different (Schumacher, 2012). They have different technologies or have a different amount of capital and labour, or they trade because they produce different varieties of the same good. In the first case, trade generates gains because it allows countries to specialize in the production of the good they can produce relatively more efficiently or that uses intensively the factor that they are more endowed with. In the second case, trade generates gains because consumers like variety and trade provides access to different varieties of goods produced all over the world. By increasing the variety of goods consumers can access and buy, trade makes consumers better off.

3.1.1 Absolute Advantage Theory

Specialization is the most important source of gains from trade. Trade allows countries to specialize in the production of the goods that they can produce relatively more efficiently and import the goods that they produce relatively less efficiently. The exchange of these goods benefits both countries. This is known in economic theory as absolute advantage. Adam Smith described how absolute advantage applies in the context of international trade (Schumacher, 2012). Then, it will be an obvious case that each country will specialize in the product that it can produce most efficiently and then trade their products.

3.1.2 Comparative Advantage Theory

There are also cases where a country with no absolute advantage gains from trade. A country does not have to be better at producing something than its trading partners to benefit from trade (absolute advantage). It is sufficient that it is relatively more efficient than its trading partners (comparative advantage). Thus the theory of comparative advantage states that when two countries specialize in producing the good in which they have a comparative advantage, both economies gain from trade, even if one country is more efficient in producing both goods (Leamer, 1995).

Each country will export the good for which it has a comparative advantage. A model of comparative advantage based on differences in labour productivity, which results from differences in technology, was first introduced in the early 19th century by the economist David Ricardo. The Ricardian Model shows how there is scope for mutual gains when each country specializes its production towards products for which it has low opportunity costs relative to other products (O'brien, 2004). It is based on differences in

technologies among countries. In the Ricardian Model there is only one factor of production namely labour. Therefore, comparative advantages only arise because of differences in labour productivity, which result from differences in technology.

3.1.3 Heckscher and Ohlin Theory

In reality, trade is not just determined by technological differences, but it also reflects differences in factor endowments across countries. To explain the importance of resources in trade two economists, Heckscher and Ohlin, developed a theory known as the "factor proportion theory". This theory essentially says that countries will export products that use their abundant and low-cost factors of production, and import products that use the countries' scarce factors (Heckscher and Ohlin, 1991). For example, in a capital abundant country, the cost of capital will tend to be relatively low. As a consequence, the cost of production of the capital intensive product, and its price, will tend to be relatively low.

The opposite will occur in a labour abundant country as wages will tend to be relatively low and the cost of the labour intensive products will be relatively low. Differences in relative prices of the two goods will lead to trade. Both countries will produce more of the good on which they have a comparative advantage. The capital abundant country will tend to specialize in the production of the capital intensive goods and export this product, while the labour abundant country will tend to specialize in the labour intensive good and export that product. Like in the case of the Ricardian Model, also in the Heckscher and Ohlin model, it is possible that the global production of both goods may increase with trade (Baldwin, 2006). It is therefore possible for both trading

economies to consume more of both goods than in the absence of trade and therefore, both countries gain from trade.

3.1.4 Economies of Scale Production

An important point to bear in mind is that the Ricardian Model and the Heckscher-Ohlin Model explain trade between different countries and different goods. In both models countries trade because they are different in terms of their technological level or in terms of factor endowments. Countries specialize in the production of the good for which they have a comparative advantage and export that product (O'Brien, 2004). However, in reality most of trade occurs between similar countries. Furthermore, between one quarter and one half of world trade is intra-industry trade, that is, trade between goods that fall in the same industrial classification. The Heckscher-Ohlin and the Ricardian Model do not explain intra-industry trade. Intra-industry trade relies on economies of scale. In many industries, the larger the scale of production, the more efficient the production (Leamer, 1995).

3.2 Trade liberalization and RTAs

The WTO is an inter-governmental organization for progressively liberalizing trade[4]. In its principles, the WTO highlights non-discrimination between members' their trading partners as outlined in the most-favoured nation principle. It also highlights non-discrimination between national and foreign like products, services or nationals as highlighted in the national treatment principle. WTO Members have the right to grant

[4] http://www.wto.org/about _us

preferential treatment to their trading partners within a customs unions or a free trade area, without having to extend such better treatment to all WTO members, subject to certain conditions (Leamer, 1995). By definition, parties to a RTA offer each other more favourable treatment in trade matters than to the rest of the world. This is contrary to the WTO's basic principle of non-discrimination among trading partners as outlined in the MFN principle.

The purpose of a customs union or a free trade area should be to facilitate trade among the parties to the RTA and not to raise barriers to the trade with other WTO Members and as such, RTAs shall be in line with the objectives of the multilateral trading system (MTS) of liberalizing trade. For trade in goods, Article XXIV of the GATT[5] (plus the Understanding on the interpretation of Article XXIV of GATT) provides the legal basis for RTAs. Economic integration agreements on trade in services are subject to Article V of GATS. In addition, the Enabling Clause (paragraph 2c) allows developing members to conclude among themselves agreements on trade in goods (South-South agreements) subject to more flexible requirements than those contained in Article XXIV of the GATT.

3.3 Theoretical Perspective of Regional Integration in Africa

In Africa, Regional Integration follows a linear stage model as was outlined during the signing of the Abuja Treaty and the Sirte Declaration (UNECA, 2004). as shown in table 3.1 below.

[5] http://www.wto.org/legalframework

Table 3.1: Stages of Regional Integration

Type of Arrangement	Free Trade Among Members	Common Commercial Policy	Free Factor Mobility	Common Monetary and Fiscal Policies	One Government
PTA	No	No	No	No	No
FTA	Yes	No	No	No	No
Customs Union	Yes	Yes	No	No	No
Common Market	Yes	Yes	Yes	No	No
Economic Union	Yes	Yes	Yes	Yes	No
Political Union	Yes	Yes	Yes	Yes	Yes

Source: UNECA: 2004

This study provides the theoretical basis of regional integration in Africa basing on the neoclassical theoretical perspective as outlined in the following sections.

3.3.1 The Neoclassical Five-Stage Economic Model of Regional Integration Theory

This section analyses the five stage Neoclassical theoretical backgrounds of regional integration. Each step is regarded as a precondition for reaching the next as it provides the required achievements for further regional integration. For Africa, the goal of regional integration is to achieve the common market in 2027 as outlined in the Abuja treaty.

a) Preferential Trade Area (PTA)

This is the first stage in regional integration following a linear stage approach (UNECA, 2004). It is an arrangement in which members apply lower tariffs to imports

produced by other members than to imports produced by nonmembers. Members can determine tariffs on imports from nonmembers. Thus members decide which member countries or which regional block they would like to join which will be highly preferential in that favourable or lower tariffs will be applied on their exports and imports (Bhagwatti, 1996).

This stage gives preferential access to certain products from the participating countries and is done by reducing tariffs but not by abolishing them completely and can be established through a trade pact. COMESA was first established as a PTA of Southern and Eastern Africa in 1981 with Malawi as one of its founding members. Since by that time, SADC was non-existent, Malawi had sole membership in COMESA and its objective was economic in nature. Being the founding member of COMESA, Malawi and other member states were to take this PTA to its next level, that of establishing an FTA. This stage does not need to exist for all regional trade blocs as some may skip this stage such as SADC. For RTAs that were established from PTAs, they need to evolve into the next stage which is that of establishment of an FTA.

b) The Free Trade Area (FTA)

The FTA may be preceded by PTA though in the classical approach it can also be established on its own. In the case of COMESA, it started as PTA and eventually became an FTA in 2004. As for SADC, it was established as FTA in 1992. Countries in an FTA agree to eliminate tariffs and other non- tariff barriers between each other (Peters-Berries, 2010). In order for the FTA to be legal under WTO, it must cover substantially all trade among members.

An FTA is characterized by internal trade liberalisation, which is basically the abolition of customs tariffs and non-tariff trade barriers (NTTB) between countries, which have chosen to form the FTA. While tariffs are abandoned internally, each member state may determine individual external customs regimes and tariffs. When national tariffs of the FTA are very different, exporters have a clear incentive to evade higher tariffs. To solve this problem, the FTA establishes the rules of origin principle. In order to qualify for a duty-free treatment, a certain per cent of the value added must have been performed in one of the member countries. The positive effects to be expected from abolishing internal trade barriers within the FTA are:

- ✓ Increased intraregional trade as the volume of goods and services demanded will grow when their prices decrease and more people are able to afford goods and services produced in the other member states of the FTA;
- ✓ Increased intraregional investments from within and from outside the FTA. The creation of an FTA increases the market volume in terms of potential customers and makes it attractive for businesses to invest. This holds if the member countries of the FTA follow an import-substituting industrialization strategy. Moreover, the bigger market also calls for additional investments to link the various parts of the FTA through roads, railways, and communication links.

Much as establishment of an FTA is beneficial, there are also costs and side effects as follows:

- ✓ Pressure to lower the remaining external customs tariffs towards third world countries in order to attract additional investment. For example, if the external tariffs of Malawi are 100% for machines and semi-processed materials but only 50% and 25% in other member states like Zambia, companies from both within

and outside the FTA will most probably opt to invest in Zambia. As the absence of internal tariffs and NTTBs allows free trade within the FTA, the country with the lowest external tariffs attracts most investments. As a result, there will be competition between the members of an FTA to lower external tariffs in order to attract such investments, which might have negative effects on both government revenue and being able to determine the direction of development. Many African countries have extremely high customs duty rates as these not only protect strategic national industries but also constitute an easy way of revenue generation. Due to this, imports are more expensive for the consumer than they need to be because of transport costs;

- ✓ The existence of protected national industries is being threatened: most African countries are at the beginning of their industrialisation and thus need to protect their infant industries often in the textile and food processing sectors through high external tariffs from the competition of bigger and cheaper international companies. In an FTA, such protection of 'infant industries' is undermined if other members have lower tariffs and open the 'backdoor' to the import of cheaper goods;
- ✓ More bureaucracy is required to counter such unwelcome side effects as the threat to national industries through the application of rules-of-origin procedures or compensationary duties.

Such measures are increasing the costs of doing business and offsetting to a certain degree the gains through trade creation (Balassa, 1974). Because of these negative side effects, the creation of an FTA is often only regarded as a necessary but, if possible, brief transition period on the way to the establishment of a Customs Union (CU). Malawi

by being a member of SADC in 1992 became a member of two FTAs. Thus in Bhagwati's hypothesis, the proliferation of membership in FTAs by a country in a quest to maximize benefits will eventually be detrimental in nature as a country will now be required to meet financial obligations from the two FTAs as well as the set rules as outlined in their agreements (Bhagwati, 1996)

c) The Customs Union (CU)

If an FTA has achieved its objectives, its member states may feel it is time to progress to the stage of a CU. In contrast to an FTA, a CU does not only liberalised its internal trade, but also unifies the external customs tariffs of its members. In other words, within a CU there is protected liberalised internal trade. The theory of RTAs is largely rooted in the theory of customs unions, and can be defined as a process to reduce or abolish tariff and non-tariff restrictions on trade of goods and services among a group of countries in a given geographical area.

Customs union theory, which started in 1950 and pioneered by Jacob Viner (1892-1970), builds on strict assumptions such as perfect competition in commodity and factor markets and hence it is often referred to as 'orthodox customs union' theory. It only deals with the static welfare effects of a customs union. The positive effects to be expected from the establishment of a CU can be summarized as follows (Viner, 1950):

- ✓ Efficient allocation of production factors in the most suitable country within the union: if all countries have the same external customs tariffs and there are no tariffs inside the regional grouping, new investments will naturally take place in the country where the best conditions such as infrastructure, proximity to harbours, political stability, skilled labour force, natural resources, etc can be

readily found. As a result, the production factors are allocated where production can be realised in the most efficient way.

- ✓ Trade creation effects as a result of the efficient allocation of production takes place when the external tariffs of the CU and the free internal trade regime displace the far duty-protected production of a good in country by the production of the same good in a more efficient and cheaper way in another country, which is also a member of that CU. As a result, a country such as Malawi must now import the good from another country, say South Africa, which is beneficial to the customers in Malawi as they cannot get this good at a cheaper price from anywhere. The resulting additional trade is regarded as increasing the welfare of the citizens of the CU.
- ✓ Additional economies-of-scale effects are possible in a CU when production of a good is becoming more concentrated and thus higher volumes of the same good can be produced. This lowers the unit price and therefore makes the production of that good more competitive.
- ✓ There is facilitation of supranational development planning, especially if developing countries engage in a CU. Establishing a CU amongst developing countries requires the joint planning of e.g. infrastructure projects such as road links, railway lines, communication links, energy supply generation, interconnections, as otherwise the economic potential of the CU might not be fully realized as such infrastructural links do not always exist. This in turn encourages planning approaches which go beyond national interests and boundaries and can foster deeper regional integration.

However, CUs are far from being the ultimate and most efficient stage of regional integration. They also have potential inherent problems that express themselves most often as:

- ✓ An increase of the joint external tariffs, which enhances the immediate danger of trade diversion. To compensate for the loss of state revenue due to the abolition of internal tariffs and to protect industrial production within the CU, members states tend to raise the external tariff levels. If that happens, the member states of the CU which have in the past imported goods from outside the union at cheaper prices can no longer do so but must obtain this good from another member of the CU at higher prices. In such a case, the neoclassical theory talks of trade diversion, which is regarded as a sub-optimal allocation of production factors and thus as not beneficial to the economic welfare of the state and its citizens. An unequal distribution of customs revenue, which causes friction between member states. The revenue from tariffs on imports from countries outside the CU is obtained at the port of entry into the CU. This will often be the most efficient port or the biggest airport, from where the goods are then shipped to the member state of the CU which has ordered them. In a perfect world, the duty levied on these goods would be transferred immediately from the authorities of the country where the point of entry is to the treasury of the importing country; in reality, there are numerous (technical) problems attached to such a success. One problem might be delayed transfer of duties to the recipient government, a second – the exchange rate fluctuations and a third, unclear destinations. A technically less complicated but politically even more controversial approach is to agree on a

fixed ratio of how to distribute the revenue from customs duties – but this requires a large degree of political goodwill.

From the neoclassical point of view, a CU only makes economic sense if

- ✓ The effect of trade creation outweighs that of trade diversion, which can only be expected if the founding states have already joined the CU on a rather high level of development.
- ✓ The regional market created by the CU is big enough to allow for intraregional division of labour and thus the specialisation of production according to the most effective allocation of production factors. This would increase the potential for trade creation substantially. While the CU offers a much wider range of advantages than the FTA, it is still far from being the optimal state of affairs according to the neoclassical theory. The still existing imperfections pertain, for example, to the high probability of trade diversion and concrete problems of determining politically acceptable formulas for sharing the customs revenue amongst member states. In other words, for a CU to function, intensive and often permanent political negotiations are required which would have to address not only an economic interest but also the need for a basic political will for integration.

COMESA became a customs union in 2009 and is yet to make strides towards the implementation of a common external tariff (CET). Many countries including Malawi fear that if they implement CET from COMESA, then they are going to lose a lot of revenue to finance their national budget. However, SADC is also making strides to achieve a customs union and if that happens, this means that member countries including

Malawi will be required to adopt SADC CET as well. This becomes very complicated for Malawi.

d) The Common Market

According to the neoclassical theory, the next stage of RECs is the formation of a common market. A common market has the features of a CU coupled with the full liberalisation of the movement of people and capital within the integration area. A common market is characterised by the following features:

- ✓ A highly efficient allocation of production factors as there is total freedom of movement of capital and persons within the integration area. This allows investments to take place anywhere within the region, people from any country of the integrated area to invest anywhere inside the common market and people (labour) to move and settle anywhere within the region. According to the neoclassical theory, this will lead to investments taking place where they can utilise the best combination of production factors.
- ✓ An increased attractiveness for investments from both inside and outside the integration area. If the rates of return on invested capital are high due to the optimal allocation of production factors and the integrated internal market is large enough to support meaningful economies of scale, additional investments will be attracted.
- ✓ An improved competitiveness in a globalised economy as a result of the optimal allocation of production factors. If the production of goods and services is organised in an efficient manner and on a large enough scale inside the common

market area, it will also make these goods and products increasingly competitive on the world markets.

Though COMESA is a common market, it is far from serving as a common market in reality as there are still challenges facing the bloc especially in terms of mobility of factors of production. Similarly for SADC, it is yet to become a common market. In Africa so far, it is only the East African Community (EAC) which has managed to reach that level and is making strides to reduce the impediments in the mobility of the factors of production (UNECA, 2012).

Between COMESA and SADC, there are many duplications and in some cases joint programmes that aim at reducing the impediments of the movement of the factors of production, such as the One Stop Border Posts (OSBP) initiatives, the transport corridors projects, and Information and Communication Technology (ICT) initiatives. All these point to the fact that Malawi's membership in these two blocs is a duplication of efforts as programmes that are implemented by COMESA are similar to those implemented by SADC and in many cases, there are joint programmes. The major draw-back comes in as Malawi has to cope with various meetings and activities of these similar programmes, thereby putting a strain on Malawi's tax payers' money.

e) The Economic Union

The next level of regional integration is the economic union, which is an agreement between countries to maintain an FTA, CET, free mobility of capital and labour, and some degree of uniformity in government and monitory policies. There are two requirements for an economic union: firstly, the creation of the common currency which implies the abolition of each country's central banks and the creation of the

common central bank. The second requirement is that each national government has to align its national policies with those of the other member countries. The policy would require covering such things as tax rates, antitrust laws, labour regulations and environmental regulations.

The world does not yet have an economic union. However, the European Union is moving towards that direction. According to the Abuja Treaty, Africa will become an economic union in 2027.

f) The Political or Supranational Union

The last stage of regional integration according to the neoclassical theory is that of the supranational union. This stage has so far proved to be rather illusive and has never been reached. The EU has all the characteristics of an economic union, coupled with some of the political superstructures of a supranational union such as regional institutions, the European Parliament and parts of a regional government (Commission) and administration. However, the last and most important step towards the formation of a supranational union, that is member states renouncing their national sovereignty in favour of a regional state, has not yet been taken. The adoption of a European constitution would have been a decisive move towards it but has for the time being been put to rest. A supranational union or regional state would according to the neoclassical approach not only encompass all the economic advantages outlined above but also combine them with the formal power of a politically unified entity.

3.4 Empirical literature on Regional Trade Agreements

The main objective of this section is to provide and analyze empirical literature on regional trade agreements. There are not many studies on regional trade agreements focusing on the impact of the spaghetti bowl on trade flows which are country specific. Below are some key studies.

(Gathi, 2009) in "***African Regional Trade Agreements as Flexible Legal Regimes***", acknowledged multiple and overlapping memberships as exemplifying a classic case of the spaghetti bowl. He further went ahead to highlight that multiple RTA membership illustrates the flexibility or open-door membership African RTAs offer. In his study, he completely ignores the impact that membership overlaps can have on trade flows in respective countries.

Another recent study of relevance is by (Willenbockel, 2013) which provides an ex-ante computable general equilibrium (CGE) assessment of the Tripartite Free Trade Area (TFTA). . However, his study has many shortfalls. In the first place, the study is over ambitious in that it assumes that all membership overlaps have been solved and that all TFTA countries only belong to that FTA. He also ignores the fact that members of a TFTA can also be members of other RTAs and that trade creation may be as a result of belonging to those other RTAs.

An interesting study was done by (Fergin, 2011) in which analyzed overlapping trade agreements on the whole African continent as an obstacle to deeper preferential integration. The results could not provide evidence of a negative effect of overlapping agreements on preferential integration. However, in analyzing the RECs on the whole African continent, this study commits a great shortfall in that in some of the RECs under study, there is no interaction between the member states, for example, ECOWAS and

SADC. This study further treats Africa as a single country such that it completely ignores country specific characteristics.

Further to this, (Afesorgbor and Bergeijk, 2011) in estimated the impact of RTA in Africa with focus on ECOWAS and SADC and compared this to a benchmark of ECOWAS and EU as well as SADC and EU. He found that ECOWAS and SADC membership significantly increases bilateral trade flows and by more than that with EU. However, the only mistake he committed was the choice of his RTAs which are not suitable for his study as there is zero interaction between ECOWAS and SADC.

Another study was also conducted by (UNECA, 2007). This study examined the potential benefit for Malawi's membership in SADC paying little attention to COMESA. This study shows that it is bias towards recommending Malawi to become a sole SADC member. This study further ignores the role that membership overlaps could have on trade flows by only focusing on impact of Malawi's dual membership on Gross Domestic Product (GDP).

3.5 Summary of Literature

Africa has the largest number of RTAs than any other continent. The growing number and importance of overlapping and multiple RTAs raises questions as to whether they are building or stumbling blocks towards the achievement of sustainable economic growth and development through regional integration.

Both theory and empirical work highlights the importance of the gains from trade through liberalization. The same applies for Malawi, trade can be a source of economic development once used to its advantage. According to empirical literature, the spaghetti bowl of RTAs may undermine the gains from trade. Though such conclusions have been

drawn, however, there has been no study that has analysed the impact of the spaghetti bowl on a single country's trade flows. This study aims at filling this gap by analyzing the impact of the spaghetti bowl on Malawi's trade flows using total exports and total import separately. This study can be applied to a number of countries in order to analyze the impact of the spaghetti bowl on their trade flows.

CHAPTER FOUR

METHODOLOGY

4.0 Introduction

The chapter provides the methodology used in conducting the study and is outlined as follows: Section 4.1 discusses the gravity model; Section 4.2 discusses estimation and diagnostic tests that will be carried out; Section 4.3 provides data sources.

4.1 The Gravity Model

This study employs the gravity model of trade as a main tool. The gravity model was first used to examine the patterns of bilateral trade flows among the European countries (Tinbergen: 1962 and Poyhonen, 1963). Later a population variable to account for its effects on trade flows was introduced (Endoh, 1999). A per capita income variable was also employed to provide a good proxy for the level of economic development which can have a positive effect on international trade (Elliott and Ikemoto, 2004). Illustration of the gravity model's application to analysis of the effects of preferential trade liberalization on member states was then provided in a number of research (Aitken,1973 and Endoh, 1999). A dummy variable showing intra-regional trade to capture trade creation among member states was also introduced (Aitken, 1973).

The key drivers in this model are economic mass or economic size measured by gross domestic product (GDP) and the geographical distance between them. Just as in the Newtonian gravity model, this trade model assumes that interaction is weaker if distance is longer and stronger when masses are larger. Thus a large country that has a substantial production and population will ceteris paribus trade more than a small country. Likewise, countries closer to each other trade more. This study will extend the gravity model to include among the explanatory variables a measure of the spaghetti bowl.

A set of countries that are analyzed in this study are attached as Appendix I and include all countries in COMESA, SADC and EU. The study analyses COMESA and SADC because Malawi belongs to both. All EU countries are included so as to be able to compare South-South trade and North-South trade in the context of regional and preferential trading arrangements. In estimating the gravity model, trade flows from the period 1997 to 2012 were selected because Malawi did not change its membership during this period. Most studies have used exports, imports or total trade interchangeably as a dependent variable for examining the determinants of trade flows of FTA members. However, exports and imports are more appropriate variables for investigating whether an FTA has produced trade creation and/or trade diversion. This study will use exports and imports interchangeably as dependent variables and will estimate two models as follows:

$$M_{ijt} = f(GDP_{it}GDP_{jt}, GDPKA_{t}GDPKA_{jt}, Pop_{it}, Pop_{jt}, Dist_{ij}, COMESA_{jt}, SADC_{jt}, Spaghetti_{ijt}, EU_{jt}) \quad \text{.....4.1}$$

$$X_{ijt} = f(GDP_{it}GDP_{jt}, GDPKA_{t}GDPKA_{jt}, Pop_{it}Pop_{jt}, Dist_{ij}COMESA_{jt}, SADC_{jt}, Spaghetti_{ijt}, EU_{jt}) \quad \text{.....4.2}$$

Table 4.1 below shows the variable description of the equations used in this study.

Table 4.1: variable description

Variable Name	Description
M_{ijt}	This represents total imports by country i (which is Malawi) from country j in COMESA, SADC, and EU at time period t.
X_{ijt}	This represents total Exports from country i (representing Malawi) to country j in COMESA, SADC and EU at time period t.
GDP_{it}	Malawi GDP at time period t
GDP_{jt}	Country j GDP at time period t
$GDPKA_{it}$	Malawi GDP per capita at time period t
$GDPKA_{jt}$	Country j GDP per capita at time period t
Pop_{it}	Malawi population at time period t
Pop_{jt}	Country j population at time period t
$Dist_{ij}$	Distance from Malawi's capital city Lilongwe to country j's capital city
$SADC_{jt}$	Dummy variable which takes the value of 1 when Malawi trades with country j which belongs to SADCand it takes the value 0 otherwise (if Malawi trades with country j that does not belong to SADC)
$COMESA_{jt}$	Dummy variable which takes the value of 1 when Malawi trades with country j which also belongs to COMESA and takes the value 0 otherwise
EU_{jt}	Dummy variable which takes the value of 1 when Malawi trades with country j which belong to EU and 0 otherwise
$Spaghetti_{ijt}$	Is an interactive dummy variable which takes the value of 1 when Malawi being a member of COMESA and SADC trades with country j which also belong to COMESA and SADC and 0 otherwise at time period t

Source: Authors compilation

4.1.1 Specification of the Import Gravity Equation

In the import gravity equation, a number of dummy variables have been introduced to capture the objectives of this study. The equation analyzing the impact of "spaghetti bowl" on Malawi's real imports is given as follows:

$$In(M_{ijt}) = \alpha_1 + \alpha_2 In(GDP_{it}) + \alpha_3 In(GDP_{jt}) + \alpha_4 InGDPKA_{it} + \alpha_5 InGDPKA_{jt} + \alpha_6 In(Dist_{ij}) + \alpha_7 Pop_{it} + \alpha_8 Pop_{jt} + \alpha_9 COMESA_{jt} + \alpha_{10} SADC_{jt} + \alpha_{11}(Spaghetti_{ijt}) + \alpha_9(EU_{jt}) + \mu_t \quad \text{.....4.3}$$

4.1.2 Specification of the Export Gravity Equation

The second model to be estimated is the export model with Malawi's real exports as the dependent variable as shown in equation 4.4. Variables are defined as in Table 4.1

$$In(X_{it}) = \delta_1 + \delta_2 In(GDP_{it}) + \delta_3 In(GDP_{jt}) + \delta_4 InGDPKA_{it} + \delta_5 InGDPKA_{jt} + \delta_5 In(Dist_{ij}) + \delta_6 Pop_{it} + \delta_7 Pop_{jt} + \delta_8 COMESA_{jt} + \delta_9 SADC_{jt} \quad \delta_{10}(Spaghetti_{ijt}) + \alpha_{11}(EU_{jt}) + \varepsilon_t \quad \text{.....4.4}$$

4.2 Estimation of the Gravity Equations

This study uses a strongly balanced panel data for fifty four (54) countries for a period ranging from 1997 to 2012. Among these countries, twenty one countries belong to COMESA and fifteen countries belong to SADC. Due to membership overlaps, the total number of countries belonging to COMESA and SADC is twenty six. The study also used data from twenty eight (28) countries from EU. In order to estimate a gravity equation using panel data, there is need to run the fixed effects and the random effects models separately. After this is done, a Hausman test will be conducted to select which

model between the two best suits the data set. The study uses Stata 12 in conducting its estimation of various equations and tests.

4.2.1 Fixed Effects Model

Estimation of equations 3 and 4 depends on the assumptions about the intercept, the slope coefficients, and the error terms (ε_{it} *and* μ_{it}). There are five assumptions that can be made before estimating the fixed effects model (Gujarat, 2004) as follows:

1. The intercept and slope coefficients are constant across time and space and the error term captures differences over time and individuals;
2. The slope coefficients are constant but the intercept varies over individuals;
3. The slope coefficients are constant but the intercept varies over individuals and time;
4. All coefficients (the intercept as well as slope coefficients) vary over individuals; and
5. The intercept as well as slope coefficients vary over individuals and time.

In fixed effects model, the intercept may differ across countries, however, each country's intercept does not vary over time. It is time invariant. The intercept for various countries vary using the differential intercept dummies and this model is known as the least-squares dummy variable (LSDV).

The equation for the fixed effects model becomes:

$$Y_{it} = \beta_1 X_{it} + \alpha_i + \mu_{it}$$

Where:

- Y_{it} is the dependent variable where i = entity and t = time;

- β_1 is the coefficient for that independent variable X;
- X_{it} represents one independent variable;
- α_i (i=1….n) is the unknown intercept for each entity (n entity-specific intercepts); and
- μ_{it} is the error term.

4.2.2 Random Effects Model

The rationale behind random effects model is that the variation across entities is assumed to be random and uncorrelated with the independent variables included in the model. This is mainly used when differences across entities have some influence on the dependent variable. An advantage of random effects is that you can include time invariant variables.

4.2.3 The Hausman Test

Having discussed the FE and RE models above, and the assumptions underlying them, a daunting question would be: which model should the study adopt? Fixed effects model imposes testable restrictions on the parameters of the reduced form model and one should check the validity of these restrictions before adopting the fixed effects model). Random effects model assumes exogeneity of all the regressors with the random individual effects. In contrast, the fixed effects model allows for endogeneity of all the regressors with these individual effects. Some of the regressors are allowed to be correlated with the individual effects, as opposed to the all or nothing choice. These over-identification restrictions are testable using a Hausman-type test. This study will run the

Hausman test using the Stata 12 package in order to make a decision on whether to use RE or FE.

4.2.4 A Priori Expectations and Econometric Concerns

Table 4.1 below summarizes expected results from the study.

Table 4.1 Expected Results

Variables of Interest	Expected Sign	Description
Malawi GDP (GDP_i)	-/+	The larger the GDP, the more the economy is expanding, resulting in higher demand for imports, hence it should have a positive relationship on the import equation and a negative on the exports equation.
Partner country GDP (GDP_j)	-/+	Smaller partner countries are expected to have a negative impact as compared to larger economies. The larger the trading partners of Malawi, the negative the relationship on the imports equation and positive relationship on the export equation.
Distance between capitals ($Dist_{ij}$)	-	Distance increases transaction costs hence affecting trade negatively thereby having a negative impact on both the import and export equations
SADC	+	Expected to have trade creation effects for all member states because this is expected to created a wider market for Malawi products hence positive on all equations
COMESA	+	Expected to have trade creation effects because it is expected to create a wider market for Malawi products
Spaghetti Bowl (Interacted variable)	-	Being a member of multiple PTAs is expected to have a negative impact on the effect of preferential integration based on the theoretical discussion above because the more the number of RTAs a country belongs to, the more the transaction costs as well as overlapping regulations
Malawi GDP/Capita (GDPKA)	-/+	This is expected to increase trade according to the Absolute Advantage theory which states that as living standards of people are improving, so are their appetite to trade in foreign products hence it should have a positive relationship on the import equation and a negative relationship

		on the export equation
Partner GDP/Capita (GDPCA)	-/+	This is a measure of development and is expected to have a positive impact on trade according to the Absolute Advantage theory which states that as living standards of people increase so is their apetite to trade in foreign products and is expected to have a negative relationship on the import equation and a positive relationship on the export equation
Malawi Population (PopMW)	+	An increase in Malawi population is expected to affect trade negatively as it will increase the market and demand for foreign products hence it is expected to have a positive relationship on the import equation and a positive relationship on the export equation.
Partner Population (Pop)	+	This will increase market demand for Malawi products hence affecting trade positively hence negative relationship on import equation and a positive relationship on the export equation
EU	-/+	Expected to expand market for Malawi products, however, positive relationship on both equations.

Source: Adopted from various studies

In estimating the gravity equation, there are two main econometric concerns. The first one is that of reverse causality between exports/ imports and RTA variables if countries that trade more intensively are more likely to form an RTA (Baier and Bergstand, 2007). However, in this study, this concern is not applicable in that both COMESA and SADC were formed when intra-regional trade was still at very low levels. In addition, membership in both COMESA and SADC is based mainly on geographical location rather than trade, making reverse causality highly unlikely in this study.

The second concern is that of unobserved heterogeneity, especially in cross sections as it imposes restrictions that the intercept and the slope of the variables are the same irrespective of the year and the trading partners. However, the fixed effect regression analysis controls for the likelihood of unobserved time invariant heterogeneity

within individual countries and time invariant omitted variables such as political, ethnic, historical, and cultural factors.

4.3 Data sources

The study utilizes secondary annual panel data for the years 1997 to 2012. Data on Malawi's total exports and imports was primarily sourced from Malawi National Statistics Office and measured in billion US dollars (US$). Data on distance between Malawi and trading partner countries was retrieved from http://www.timeanddate.com which measures the shortest possible theoretical air distance between capital cities of Malawi, Lilongwe, and that of the trading partner recorded in Kilometers. Data on countries' GDP recorded in billion US$, GDP per capita recorded in US$, and population (in millions) was sourced from www.tradingeconomics.com. More data was also sourced from respective RTA's websites, UN statistics division and UN Comtrade, and World Bank Wits.

CHAPTER FIVE

REGRESSION RESULTS AND DISCUSSION

5.0 Introduction

This chapter presents the regression results of the gravity of trade flows that was estimated. The chapter is outlined as follows: Section 5.1 gives the descriptive statistics for the variables in the model; Section 5.2 gives the results from estimation of the two regression models; and Section 5.3 gives regression results and interpretation based on the random effects model.

5.1 Descriptive Statistics

Table 5.1 below gives the descriptive statistics for the samples in the study.

Table 5.1: Descriptive statistics

Variable	Mean	Min	Max
$SADC_{jt}$	0.259259	0	1
EU_{jt}	0.518519	0	1
$COMESA_{jt}$	0.368056	0	1
CountryID	27.5	1	54
M_{ijt}	0.984583	0.44	1.96
X_{ijt}	0.548912	0.25	1.09
$Dist_{ij}$	4791.741	516	8874
GDP_i	3.09375	1.72	5.62
GDP_j	248.2185	0	3623.7
$GDPKA_i$	224.57	203.05	261.55
$GDPKA_j$	13.35433	0	87.72
Pop_{jt}	18.32689	0.08	89.39
Pop_{it}	12.5475	10.15	15.46
$Spaghetti_{ijt}$	0.296296	0	1

Source: Authors' compilation using stata12 from research data

Table 5.1 provides summary statistics from the research data that was used. From the results, Malawi imports (M) from COMESA, SADC and EU countries showed a mean of US$0.98 billion. The minimum observation for Malawi imports was US$ 0.44 billion while the maximum was US$1.96 billion. For Malawi exports (X), the mean value was US$0.55 billion. The minimum value of exports from Malawi to COMESA, SADC and EU was US$0.25 billion while the maximum was US$ 1.09 billion. Malawi's GDP measured by GDP_i had a mean value of US$3.09 billion. The minimum observation was US$1.72 billion while the maximum was US$5.62 billion.

GDP for trading partners measured by GDP_j in COMESA, SADC and EU had a mean of US$248 billion. The minimum observation was US$0.2 billion while the maximum observation was US$3.6 trillion. $GDPKA_i$ had a mean value of US$225. The minimum observation recorded was US$203 while the maximum observation recorded was US$262. The rest of Malawi's trading partners $GDPKA_j$ recorded a mean of US$13,402. The minimum observation recorded US$0.12 billion while the maximum recorded observation was US$87,720.

Malawi population (Pop_{it}) recorded a mean value of 12.55 million. The minimum observation recorded was 10.15 million while the maximum was 15.46 million. For the rest of its partners (Pop_{jt}), mean population was 18.33 million. The minimum observation was 0.08 million while the maximum observation was 89.39 million. Distance measured by $Dist_{ij}$ recorded a mean value of 4791.74 kilometers. The minimum observation was 516 kilometers while the maximum observation was 8874 kilometers. The dummy variable for $COMESA_{jt}$ recorded a mean of 0.34. That of $SADC_{jt}$ recorded a mean value of 0.26. The Spaghetti bowl variable ($Spaghetti_{ijt}$) recorded a mean value of 0.30. And finally the dummy variable EU_{jt} recorded a mean value of 0.52.

5.2 Estimation Results

5.2.1 Results and Interpretation from Fixed Effects Model from equation 4.3 and equation 4.4.

Table 5.2: Results from Fixed Effects model of equation 4.3

M_{ijt}	Coef.	Std. Err.	t	P>t
GDP_i	0.618099*	0.046148	13.39	0
GDP_j	0.447891*	0.045668	9.81	0
$GDPKA_i$	-0.38304*	0.144078	-2.66	0.008
$GDPKA_j$	-0.3953*	0.076247	-5.18	0
Pop_{jt}	-0.31034*	0.101265	-3.06	0.002
Pop_{it}	1.103507*	0.140985	7.83	0
$Dist_{ij}$	0			
$SADC_{jt}$	0			
$COMESA_{jt}$	0.079838	0.059123	1.35	0.177
EU_{jt}	0			
$Spaghetti_{ijt}$	0			
_cons	-1.86076	0.827892	-2.25	0.025
R-Sq	Within	0.8484		
	Between	0.0967		
	Overall	0.6931		

Note: *** significance at 1%; ** significance at 5%; * significance at 10%;

From Table 5.2 above, variables GDP_i, GDP_j, $GDPKA_i$, $GDPKA_j$, Pop_{jt}, and Pop_{it} are statistically significant. These variables tally with their expectations. The within, between and overall R-squared are given by 0.8484, 0.0967, and 0.6931, respectively which shows that the model was a good fit. A dummy variable for COMESA ($COMESA_{jt}$) is statistically not significant and cannot explain trade flows in Malawi. This means COMESA RTA does not have trade creating effects on Malawi. Variables

$SADC_{jt}$, EU_{jt} and $Spaghetti_{ijt}$ are automatically omitted from the results as they show high co-linearity. Variables $GDPKA_i$, $GDPKA_j$, Pop_{jt} have negative. This entails that though the level of economic development might affect Malawi's imports flows, however, an increase in level of development in both Malawi and partner countries will actually reduce import demand in Malawi.

Table 5.3: Results from Fixed Effects of Model 4.4

X_{ijt}	Coef.	Std. Err.	T	P>t
GDP_i	0.629447*	0.047009	13.39	0
GDP_j	0.273785*	0.04652	5.89	0
$GDPKA_i$	-0.72643*	0.146765	-4.95	0
$GDPKA_j$	-0.21693*	0.077668	-2.79	0.005
Pop_{jt}	-0.19616	0.103153	-1.9	0.058
Pop_{it}	1.024016*	0.143614	7.13	0
$Dist_{ij}$	0			
$SADC_{jt}$	0			
$COMESA_{jt}$	-0.00652	0.060225	-0.11	0.914
EU_{jt}	0			
$Spaghetti_{ijt}$	0			
_cons	-0.23533	0.843328	-0.28	0.78
R-Sq	Within	0.7996		
	Between	0.1267		
	Overall	0.7034		

Note: *** significance at 1%; ** significance at 5%; * significance at 10%;

From Table 5.3 above, variables GDP_i, GDP_j, $GDPKA_i$, $GDPKA_j$, and Pop_{it} are statistically significant. The within, between and overall R-squared are given by 0.7996, 0.1267, and 0.7034, respectively. The model shows a good fit. Variable Pop_{jt} as well as a dummy variable $COMESA_{jt}$ are statistically insignificant and cannot explain trade flows in Malawi. Variables $Dist_{ij}$, $SADC_{jt}$, EU_{jt} and $Spaghetti_{ijt}$ were deleted from the results as their value of coefficients were zeros. Variables $GDPKA_i$ and $GDPKA_j$, have negative coefficients.

5.2.2 Results and Interpretation from Random Effects Model of equation 3 and 4

Table 5.4: Results from Random Effects model on Malawi imports

M_{ijt}	Coef.	Std. Err.	Z	P>z
GDP_i *	0.648582	0.0449	14.45	0
GDP_j *	0.345816	0.038659	8.95	0
$GDPKA_i$ *	-0.36403	0.140486	-2.59	0.01
$GDPKA_j$ *	-0.33903	0.038976	-8.7	0
Pop_{jt} *	-0.3505	0.039408	-8.89	0
Pop_{it} *	1.269811	0.118305	10.73	0
$Dist_{ij}$	-0.01559	0.023716	-0.66	0.511
$SADC_{jt}$ *	0.019549	0.030041	0.65	0.001
$COMESA_{jt}$ *	-0.01498	0.030963	-0.48	0.003
EU_{jt}	0.018717	0.04572	0.41	0.682
$Spaghetti_{ijt}$ *	0.001454	0.028696	0.05	0.002
_cons	-1.92049	0.831036	-2.31	0.021
R-Sq	Within	0.8469		
	between	0.8853		
	Overall	0.8452		

Note: *** significance at 1%; ** significance at 5%; * significance at 10%;

From Table 5.4 above, variables GDP_i, GDP_j, $GDPKA_i$, $GDPKA_j$, Pop_{jt}, Pop_{it}, $COMESA_{jt}$, $SADC_{jt}$ and $Spaghetti_{ijt}$ are statistically significant. The within, between and overall R-squared are given by 0.8469, 0.8853, and 0.8452, respectively. The model shows a good fit. Variables Distance ($Dist_{ij}$) and EU_{jt} are statistically insignificant.

Table 5.5: Results of the Random effects model of Malawi Export equation

X_{ijt}	Coef.	Std. Err.	z	P>z
GDP_i	0.647468	0.045368	14.27	0
GDP_j	0.21591	0.039062	5.53	0
$GDPKA_i$	-0.7207	0.141951	-5.08	0
$GDPKA_j$	-0.21	0.039383	-5.33	0
Pop_{jt}	-0.21927	0.039819	-5.51	0
Pop_{it}	1.149321	0.119539	9.61	0
$Dist_{ij}$	-0.00907	0.023963	-0.38	0.705
$SADC_{jt}$	0.000732	0.030354	0.02	0.001
$COMESA_{jt}$	-0.02809	0.031286	-0.9	0.003
EU_{jt}	-0.00863	0.046196	-0.19	0.852
$Spaghetti_{ijt}$	0.009999	0.028995	0.34	0.001
_cons	-0.28365	0.839701	-0.34	0.736
R-Sq	within	0.7989		
	between	0.9373		
	overall	0.7989		

Note: *** significance at 1%; ** significance at 5%; * significance at 10%;

From Table 5.4 above, variables GDP_i, GDP_j, $GDPKA_i$, $GDPKA_j$, Pop, Pop_{it}, COMESA, $SADC_{jt}$ and $Spaghetti_{ijt}$ are statistically significant. The within, between and overall R-squared are given by 0.7989, 0.9373, and 0.7989 respectively. The model shows a good fit. Variables EU_{jt} and Spaghetti are statistically insignificant.

5.2.3 Results and Interpretation from the Hausman Test

Table 5.6: Hausman test results from the Malawi Import equation (Equation 4.3)

	(b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
GDP_i	0.618099	0.648582	-0.0304838	0.0106609
GDP_j	0.447891	0.345816	0.1020753	0.0243118
$GDPKA_i$	-0.38304	-0.36403	-0.0190089	0.0319711
$GDPKA_j$	-0.3953	-0.33903	-0.0562682	0.0655317
lnPop	-0.31034	-0.3505	0.04016	0.0932817
Pop_{it}	1.103507	1.269811	-0.1663037	0.0766863
COMESA	0.079838	-0.01498	0.0948188	0.0503664
				Prob>chi2 = 0.0071

Source: Author's compilation from research data

Using the Hausman results above, the fixed effects model is rejected in favour of the random effects model if Prob>chi2 is greater than 0.005. The results above show that Prob>chi2 is 0.0071 which is greater than 0.005 hence the Fixed Effects model is rejected in favour of the Random Effects Model for import equation 4.3. For imports equation, this study will interpret results in accordance with the Random Effects model.

Table 5.7: Hausman test results from Malawi Export equation

	(b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
GDP_i	0.629447	0.647468	-0.0180204	0.0123104
GDP_j	0.273785	0.21591	0.0578749	0.0252632
$GDPKA_i$	-0.72643	-0.7207	-0.0057331	0.0372787
$GDPKA_j$	-0.21693	-0.21	-0.0069248	0.066943
lnPop	-0.19616	-0.21927	0.023114	0.0951571
lnPopMW	1.024016	1.149321	-0.1253051	0.0795958
COMESA	-0.00652	-0.02809	0.0215621	0.051461
				Prob>chi2 = 0.4161

Source: Author's computation using research data

Using the Hausman results above, the fixed effects model is rejected in favour of the random effects model if Prob>chi2 is greater than 0.005. The results above show that Prob>chi2 is 0.4161 which is greater than 0.005 hence the Fixed Effects model is rejected in favour of the Random Effects Model for export equation 4.4. For export equation, this study will interpret results in accordance with the Random Effects model.

5.2.8 Interpretation of Results from Random Effects Model of the import equation

From the results of the Random Effects model of the import equation given in Table 5.4 above, Malawi GDP has a positive coefficient of 0.65 which is in line with the expected results that an expansion in an economy will lead into an increase in demand for foreign products hence an increase in imports. Similarly, an increase in GDP of Malawi's trade partners leads to an increase in their imports from Malawi as shown by a positive

coefficient of GDP of 0.35 which means as Malawi's trading partners' GDP increases, so is their demand for Malawi's products and other foreign products, hence their import demand also increases.

From these results, there is a positive relationship between a country's GDP and its import demand. The Malawi's GDP per capita variable is shown by a negative coefficient of -0.36 and that of its trading partners by -0.34. Considering the results of the relationship between GDP and imports, the only effect that is playing a major role here in terms of GDP per capita is the population variable. In all the countries, the population variable depicted an increasing trend such that an increase in population was expected to provide a wider market for both foreign and domestic products.

However, according to the negative coefficient obtained, an increase in Malawi's population indeed led to an increase in import demand for goods from COMESA, SADC and EU countries. However, contrary to expectations, an increase in population of Malawi's trading partners does not lead into an increase in an import demand especially of Malawian products. Further to this, Malawi's population has a positive coefficient of 1.27 which is in line with expected results that an increase in Malawi population will lead to an increase in demand for foreign products from Malawi's trading partners. This shows the positive relationship between Malawi population and import demand. However, contrary to expected results, Malawi's trading partners' population instead has a negative population coefficient of -0.35 which means that an increase in Malawi's partners' population had a negative effect on their imports demand especially Malawi products.

Distance ($Dist_{ij}$) between the two capitals is insignificant and as such does not have any effect on Malawi's import flows. SADC variable has a positive coefficient of 0.02 meaning that Malawi membership in SADC has a positive relationship with

Malawi's import flow. This is also in line with Table 2.2 which shows Malawi's trade balance in deficit. COMESA variable ($COMESA_{jt}$) has a negative coefficient at -0.014 meaning that COMESA has a negative relationship with Malawi's import flows. The EU variable is insignificant meaning that Malawi's imports from EU are insignificantly very small to have any impact. On the import equation, the spaghetti variable has a positive coefficient of 0.0015 which means that the effects of Malawi being a member of COMESA and SADC and trading with countries that belong to COMESA and SADC has a positive and significant impact on its import flows.

5.2.9 Interpretation of Results from Random Effects Model of the export equation.

From the results of the Random Effect model of the export equation, Malawi GDP has a positive coefficient of 0.65 which is in line with the expected results in that an expansion in an economy means that there is an improvement in economic environment such as exchange rates and efficiency production for exports. This in turn may lead to an increase in export products. Similarly, an increase in GDP of Malawi's trade partners leads to an increase in their export products as shown by a positive coefficient of GDP of 0.22. Malawi's GDP per capita is shown by a negative coefficient of -0.72 and that of its trading partners by -0.21. Malawi's population has a positive coefficient of 1.15 contrary to what was expected that an increase in population is expected to provide a market for foreign products. Malawi's trading partners' population instead has a negative population coefficient of -0.22 which means that Malawi's partners' population had a negative effect on Malawi's import flows.

Distance between the two capitals variables is an insignificant variable and as such does not have any effect on Malawi's import flows. SADC RTA variable has a

positive coefficient of 0.0007 meaning that Malawi experiences trade creation effects from trading with SADC countries while COMESA RTA variable has a negative coefficient at -0.03 meaning that Malawi has a trade diversion effect on its import flows from COMESA region. The EU variable is insignificant meaning that Malawi's imports from EU are insignificantly very small to have any impact. On the import equation, the spaghetti variable has a positive coefficient of 0.01 which means that the effects of Malawi being a member of COMESA and SADC and trading with countries that belong to COMESA and SADC has a significant impact on its import flows.

CHAPTER SIX

CONCLUSION AND POLICY IMPLICATIONS

6.0 Introduction

This chapter presents the conclusion and policy implications of this study. The chapter is outlined as follows: Section 6.1 gives a summary of results from the Gravity models that were estimated; Section 6.2 gives the policy implications that can be derived from the results that have been obtained; Section 6.3 gives some of the limitations of this study; and finally Section 6.4 outlines the areas for further research.

6.1 Summary of Results

The purpose of this empirical study was to assess the impact of the spaghetti bowl on trade flows in Eastern and Southern Africa, with a case study of Malawi belonging to both COMESA and SADC. The study found that spaghetti bowl for Malawi from an import equation that there is a positive relationship between Malawi's membership in both COMESA and SADC. For the export equation, the impact of the spaghetti bowl is positive but very minimal. This is contrary to what Bhagwati hypothesized. This could be due to the fact that Malawi’s trade participation in both the RTAs is very minimal.

6.2 Policy Implications

The aim of this essay was to describe the spaghetti bowl phenomenon in Africa and assess its impact on preferential trade. The description of the spaghetti bowl indicates that there are agreement overlaps in COMESA and SADC that are likely to lower the performance of integration. The study could not find any robust statistical evidence for trade impact of the spaghetti bowl phenomenon, and as such, it should not necessarily be interpreted as undermining the spaghetti bowl theory, which still could be considered relevant and important. As the problem of overlapping PTAs still can be assumed to create implementation problems, especially for Malawi, it is an important issue that needs to be addressed when discussing developing country policy. There is need to develop institutional capital and administrative qualities in developing countries crucial when integrating their economies in world trade and the global web of trade agreements. For Malawi, investment in infrastructure is a key to successful trade and economic integration within the continent.

There is also need to develop stable and efficient institutional framework as a condition for successful implementation of development projects. On this area, cooperation with developed countries might be beneficial as they may provide developing countries with resources and help to create strategies for long-term economic development. Since the spaghetti bowl does not have negative impact on Malawi's trade flows, Malawi needs to strategize careful to make sure that it maximizes the gains from its membership in both COMESA and SADC.

6.3 Limitations of the Study

The study used secondary data which was not consistent. For instance, there were years where different values were registered for the same variable in the same year in different sources. This was a problem in that it was difficult to tell as to which values were correct and this in one way or another might have affected the results of this study.

6.4 Areas of Further Research

For future research purposes, the potential for the Tripartite FTA to solve the spaghetti bowl needs to be empirically estimated. So far there have been a number of High Level meetings among African leaders on the potential for the Tripartite FTA to solve the spaghetti bowl, but that needs to be empirically tested.

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Appendix I: List of Countries Used in this Study

COMESA & SADC Countries
Angola
Botswana
Burundi
Comoros
DRC
Djibouti
Egypt
Eritrea
Ethiopia
Kenya
Lesotho
Libya
Madagascar
Mauritius
Mozambique
Namibia
Rwanda
Sychelles
South Sudan
Sudan
Swaziland
Uganda
Tanzania
Zambia
Zimbabwe
EU Countries

Austria
Belgium
Bulgaria
Croatia
Cyprus
Czech Republic
Denmark
Estonia
Finland
France
Germany
Greece
Hungary
Ireland
Italy
Latvia
Lithuania
Luxemburg
Malta
Netherlands
Poland
Portugal
Romania
Slovakia
Slovenia
Spain
Sweden
UK