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The trade effect of African Free Trade Areas (FTA) 2008-2017: A Gravity Model Analysis

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ABSTRACT

The trade effect of African Free Trade Areas (FTA) 2008-2017: A Gravity Model Analysis

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African Free Trade Areas (FTAs) are one of the most significant purposes of the Regional and economic integration that have made African countries group themselves into different Regional economic communities (RECs) also called Regional Trade Areas (RTAs) so as they can enhance and promote trade of goods and services among them with minimum restrictions.

This study has been conducted in objective to analyze the establishment of African Free Trade Areas(FTAs) and their trade effect; with the use of Gravity Model analysis, the results found showed in some cases that a country being a member State of a regional Trade Area in Africa increased significantly its trade volume which means the increase of intra-regional trade but for other cases the results showed that there was trade volume declines; the important reason for the declines was that there is a

significant relationship of trade declines and political instability which meant that trade performance would not only be achieved from tariff alleviation but also political will of Committed Nations.

Key words: African FTAs, Trade volume, Gravity Model

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LIST OF ACCRONYMS

AfCFTA: African Continental Free Trade Area

AMU: Arab Maghreb Union

CEN-SAD: Community of Sahel-Saharan States

COMESA: Common Market for Eastern and Southern Africa

EAC: East African Community

ECCAS: Economic Community of Central African States (ECCAS)

ECOWAS: Economic Community of Western African States

FTA: Free Trade Area

IGAD: Intergovernmental Authority on Development

REC: Regional Economic Communities

RTA: Regional Trade Area

SADC: Southern African Development Community

SSA: Sub-Sahara Africa

WITS: World Integrated Trade Solutions

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CHAPTER I. GENERAL INTRODUCTION

1.1. Background of the Study

Trade is one of the best sectors of the economy that leads economies of most of the developed countries and developing countries, different countries have had different bilateral agreements and multilateral agreements to reduce the trade barriers such as Tariff and non-tariff barriers that mostly cause the non-performance of International trade.

Referring to the developed countries, the Free Trade Area (FTA) policy has been successful in different multilateral free trade agreements and more contributive in increasing their economies through trade among countries with restricted trade barriers that enable people of one country to produce and export products of high relatively comparative advantage and import from the neighbor country products that are low relatively comparative advantage, vice-versa to the counter-part and this bring both countries at maximizing their profits, FTAs have been known to create more jobs and increase the productivity of the small and medium enterprises, Example of the common known FTAs are Southern common market (MERCOSUR), The North American Free Trade Agreement (NAFTA), Association of Southeast Asian Nations Free Trade Area (AFTA), etc…

African continent in which many countries are in development process, in order to raise the living standards of their population and maintain the economic stability of their respective countries, they have made the regional economic integration by grouping them in different Regional Economic Communities(RECs) where the major communities are such as, The Economic Community of Western African States(ECOWAS) established in 1975, Economic Community of Central African States (ECCAS) established in 19683, The Arab Maghreb Union (AMU) established in 1989, The Southern African Development Community(SADC) established in 1992, The Intergovernmental Authority on Development (IGAD) established in 1996, The Common Market for Eastern and Southern Africa (COMESA) established in 1994, The East African Community (EAC) established in 1999, The community of Sahel-Saharan States (CEN-SAD) established in 1998, , The Tripartite Free Trade Area (TFTA) established in 2008 but not yet get into force and the African Continental Free Trade Area (AfCFTA) established in 2018 and got into force on 30 May 2019.

Most of these economic communities have been established mostly for trade promotion purposes even if some of them have other forms of cooperation like military cooperation, sharing a common currency, etc...

This research will review the existing works of literature on the Free Trade Areas in the Africa Continent and focus on their establishment goals, implementation process and it will finally analyze their trade effects.

The study comprises 5 chapters that include General Introduction and General background of the study, Review of the existing literature, Methodology, Presentation of Findings and interpretation, Policy Recommendation and Conclusion.

1.2. Statement of The Problem

Trade as an economic activity that is known to be efficient to improve countries' economy has always having constraints due to different reasons with different States accordingly. While implementing multinational trade, there are many constraints including tariff barriers and non-tariff barriers that make it difficult to exercise the cross-border trade. As many countries of Europe, America and Asia have tried to overcome such constraints by creating Free trade areas to make easy the trade among them for common goals of reducing trade barriers, enhance competition policy where consumers benefit to buy products on lower prices and access to different markets;

According to the (WTO, 2011), "regional trade integration offers both a response to the structural challenge of the slenderness of domestic markets and raise policy predictability". Regional integration may likewise accomplish economies of scale and to reinforce supplies and competitiveness limits by offering to organizations the potential outcomes to access to the market of the neighbors (Gillson, 2010). Though African States have made regional economic Integration with objectives to increase Trade volumes and Intra-Trade among the member States but different agreements have not been successful due to different constraints. Therefore, with empirical

analysis the researcher intends to find out if the establishment of these FTAs has made an economic development through trade as it is the most purpose of the FTA to raise up the volume of Trade of member countries.

1.3. Objectives of the study

This research aims at:

Find out if the establishment of the African Free Trade Areas have increased the volume of trade of their member States, if not find out the reasons behind.

1.4. Research Question

Do the African Free Trade areas (FTAs) increase the trade volume of the member states?

I.5. Hypothesis

Null Hypothesis(H0): The establishment of the Free Trade Areas in Africa increase the trade volume of the member states.

Alternative Hypothesis(H1): The establishment of the Free Trade Areas (FTAs) in Africa does not increase the trade volume of member states.

1.6. Scope of the study

In this research we will analyze the panel data of 53 African countries for the period of 10 years from 2008 to 2017, the data that will be used are the second data extracted

from the reputable International organizations which are mostly used in the Quantitative researches all over the World.

1.7. Limitations of the Study

Most of the limitations in this research was the unavailability of data, as African Continent has 54 countries but due to unavailability of data the research was conducted in only 53 countries and sometimes within the 53 countries there were some missing values in different years' data, also in this research in the period of searching for data one of the reputable data provider UN COMTRADE which mostly used by many different researchers all over the World was under maintenance and the researcher had hard time to search for data from other Data provider websites which can provide similar data. Though due to data unavailability we didn't get able to conduct research on any central African or West African Country; the trade data (Imports and Exports) that we used in this research we got them from the World Integrated Trade Solutions (WITS) developed by the World Bank and the available data for West and Central African countries were not enough to produce accurate results for our research.

CHAPTER II. LITERATURE REVIEW

2.1. Definition of Concepts

2.1.1. Free Trade Area (FTA)

By the (OECD, 1999), Free Trade Area (FTA) is defined as "a gathering of countries within which tariffs and non-tariff trade barriers between the members are generally annulled but with no common trade policy toward non-members".

The European Commission defines FTA as agreements that eliminate or cut customs duties, remove quotas and reduce the number of other trade confinements for trade in goods and services between two (bilateral) or more (multilateral) participating Nations (European Commission, 2017).

After signing agreements between or among member states of the agreement they set a free trade area that would be limited by the borders of the respective countries that signed these agreements, these agreements have initially objective of increasing trade of services and goods among the member states.

In addition to the free trade agreements, the member states can also advance by open their borders where their citizens can move freely and cross the borders of the member states the so-called economic integration within the member states.

Different Economists discourses are whether FTAs might be harming or bias in a major picture the frameworks sense. Agreements might skew trade from efficient to

low tariff producers, or from domestic to foreign sources, often called trade diversion and trade creation (Lawrence, 1996).

Others believe the creation of bilateral FTAs damages the multilateral trading system and distorts efforts by the WTO to unify more fair and globalized rules (Bhagwati, 2000).

Some Economists argue that free trade agreements that result in open economy increase trade competition but may harm domestic jobs and industries while importing competitive products or resources though some economists on one hand do not support the free trade, on the other hand other economists argue that it is very important to have competition within trade because it increases the quality of products and make products of lower price while consumers benefit from the cheap prices of the merchandises.

2.1.2 African Free Trade Areas (FTAs)

Talking about Free Trade Areas in Africa, there are many different Free Trade Agreements (Bilateral and multilateral) but in this this research we will focus on the Regional Economic communities (RECs) that have customs Unions and/ or Free Trade Agreements among the member States, the member states of the same Regional Economic Community they have the common External Tariffs (CETs), these RECs are also called Regional Trade Areas (RTAs).

One of the main objectives of the creation of the Regional Trade Blocs on African Continent was Trade creation which makes the increase of trade volumes of states in trade, recognizing that the trade creation and trade diversion are significant direct effects of the formation of a customs union.

The African Regional Trade Areas have been created under the African Economic Community(AEC), the commission that was created under the Organization of African Union (OAU) to help and follow up the establishment of Regional Economic communities towards African Continent Integration.

2.1.2.1. African Economic Community (AEC)

The African Economic Community (AEC) is a part of the African Union (AU) which has been adopted by the Organization of African Union(OAU) in Nigeria on June 3rd, 1991 with objectives of coordinating various activities of African Regional Economic Communities (RECs) and guide them to a single market and if possible become a Monetary Union.

This treaty of the African Economic Union came into force in May 1994 after the ratification of member states and was supposed to achieve its objectives through a gradual process of coordinating, harmonizing and facilitating the progressive integration of the activities of existing and future regional economic communities (RECs) in Africa.

Under this African Economic Community (AEC) organization with targets of facilitating the regional economic integration, some economic communities have been created in addition to other existing Regional Economic communities; by today in Africa it exists 8 major Regional economic communities such as: The Economic Community of Western African States(ECOWAS) established in 1975, The Economic Community of Central African States (ECCAS) established in 1983, The Arab Maghreb Union (AMU) established in 1989, The Southern African Development Community(SADC) established in 1992, The Common Market for Eastern and Southern Africa (COMESA) established in 1994, The Intergovernmental Authority on Development (IGAD) established in 1996, The community of Sahel-Saharan States (CEN-SAD) established in 1998, The East African Community (EAC) established in 1999

2.1.2.2 Economic Community of Central African States (ECCAS)

Established in 1983, The Economic Community of Central African States (ECCAS) has its Headquarters in Libreville, Gabon its member States are Chad, Cameroon, the Central African Republic (CAR), Congo Brazzaville, the Democratic Republic of Congo (DRC), Gabon, Equatorial Guinea, Burundi, and Sao Tome and Principe.

ECCAS is the economic network that regrouped the Member States of the Central African Economic and Monetary Community (CEMAC) the Central African Republic (CAR), Cameroon, Chad, Congo Brazzaville, Gabon, and Equatorial Guinea with Sao Tome and Principe. it is composed also by the States of the Community of Great Lake

Countries (CEPGL) Burundi and the Democratic Republic of Congo (DRC) aside from Rwanda which forsaken in 2007 because of its participation in numerous and distinctive Economic people group just as Angola that changed its status from full membership to Observer.

The ECCAS has a land of 6630539 km2 with an all-out population of around 121 million and has propelled a Free Trade Agreements in 2004 with the primary goal of the expanding trade among states members and lessening their trade reliance towards the rest nations of the world.

2.1.2.3 The Economic Community of Western African States (ECOWAS)

It has been stablished in 1975 and has 15 member countries which are included Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Benin, Cote d'Ivoire, The Gambia, Ghana, Burkina Faso, Cape Verde, and Togo.

The ECOWAS was created with primary goal of promoting the economic cooperation among member states to enhance living standards and increment economic development; it has additionally attempted to address some security issues by building up a peacekeeping power for clashes inside the region. ECOWAS has established its free trade area in 1990 and adopted a common external tariff in January 2015.

2.1.2.4 The Arab Maghreb Union (AMU)

The Arab Maghreb Union (AMU) has been established in 1989, it has been created for objectives of promoting economic and political cooperation among the Arab African

countries. Its member States are 5 nations: Mauritania, Morocco, Algeria, Libya, and Tunisia, its Headquarters are in Rabat/ Morocco.

The member States of the AMU together they have the GDP of US$425.7 billion, average GDP per capita of US$4518 at the superficies of 5.8 million sq. km with Total population of 94.2 million (2016 est.).

2.1.2.5 The Southern African Development Community(SADC)

Established in 1992, The Southern African Development Community (SADC) is a Regional Economic Community including 16 Member States: Mozambique, Namibia, Democratic Republic of Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Seychelles, South Africa, Tanzania, Zambia, Angola, Botswana, Comoros, and Zimbabwe; their central station are situated in Botswana.

In 2008, among 16 members of the SADC, 13 have made a Free Trade Agreements among them while 3 States Angola, Comoros and DRC did not yet join the FTA.

SADC has 1.8% of GDP growth rate (2018), GDP of USD$721.3 Billion (2018 statistics) with Population of 345Million (2018est.)

2.1.2.6 The Common Market for Eastern and Southern Africa (COMESA)

Set up in 1994, the Common Market for Southern and Eastern Africa (COMESA) it has 21 member States: Rwanda, Seychelles, Somalia, Sudan, Congo Dem Rep., Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Burundi, Comoros, Libya, Madagascar,

Malawi, Mauritius, Swaziland, Tunisia, Uganda, Zimbabwe and Zambia, its Headquarters are based in Lusaka/ Zambia.

COMESA has a population of over 520 million (2018 est.) and a geographical area of 12 Million (sq. km) but Tunisia and Somalia that joined later in 2018 are not included, COMESA had made its FTA among the member countries in year 2000 and has launched the customs unions in 2009 with objective to have the common external tariffs (CET) and reduce any other non-tariff barriers.

(Mevel, 2008) There is incredible heterogeneity among the 19 nations of COMESA as far as land territory, monetary size and execution, and reliance on exchange. The nations in COMESA extend in physical territory from the little island countries of Seychelles, Mauritius, and Comoros to the huge nations of Sudan, Democratic Republic of Congo, and Libya. As far as financial order, the district incorporates 12 least developed nations, of which 6 are land-locked, and seven middle-income countries. Territorial per capita GDP (PPP) shifts generally, going from US$593 in Burundi to US$14329 in Seychelles in 2005. Monetary execution as far as normal GDP development from 2001 to 2005 shows negative development rates for Seychelles and Zimbabwe over the period, while nations, for example, Ethiopia, Libya, Rwanda, Sudan, and Uganda developed by in excess of a normal of 5 percent yearly over the period. While a few nations in the area, for example, Djibouti, Mauritius, Seychelles, Swaziland, and Zimbabwe depend rather vigorously on trade, trade comprises a lot littler piece of the economies of Burundi, Comoros, Rwanda, Uganda, and Zambia.

The overall significance of the areas of the economy additionally shifts generally between the COMESA nations. Horticulture is as yet the predominant area, with rural worth included establishing in excess of 40 percent of GDP in nations like Comoros, D. R. Congo, Ethiopia and Rwanda. On the other hand,

agribusiness is under 10 percent of GDP in Djibouti, Mauritius, and Seychelles where administrations, including the travel industry, make up around 70 percent of GDP. The administrations segment is likewise noteworthy, including in excess of 50 percent of GDP in Eritrea, Kenya, Madagascar, and Egypt. Industry, which differently incorporates the mining part, materials and clothing, and the oil and oil segments, still records for in excess of a fourth of GDP in D.R. Congo, Egypt, Mauritius, Seychelles, Sudan, Swaziland, Uganda, and Zambia.

2.1.2.7 The Intergovernmental Authority on Development (IGAD)

Established in 1996 The Intergovernmental Authority on Development (IGAD), is comprised by 8 member Nations as a trade bloc and it includes countries of the African Great Lakes, horn of Africa and Nile Valley, its headquarters are in Djibouti.

The member States of IGAD are: Eritrea, Djibouti, Ethiopia, the Sudan, South Sudan, Kenya, Somalia and Uganda.

IGAD had 5.5millions of square kilometer of land, 277.154 million of population, with GDP of USD$ 259.025 Billion and GDP per capita of USD$935 (2019 statistics).

2.1.2.8 The community of Sahel-Saharan States (CEN-SAD)

The Community of Sahel-Saharan States (CEN-SAD) was created in 1998, in Tripoli / Libya by the leaders and Heads of States within the conference that was held in Tripoli.

Its Members are 24: Chad, Benin, Central African Republic (CAR), Burkina Faso, The Comoros, Cote d'Ivoire, Djibouti, Egypt, Eritrea, Libya, Mali, Mauritania, Morocco, Niger, Senegal, Sierra Leone, Nigeria, Somalia, The Sudan, Ghana, Guinea Bissau, Togo, The Gambia and Tunisia and the headquarters of the CEN-SAD are in Tripoli (**Libya**).

According to the statistics of 2014, CEN-SAD had a population of 553 million, GDP of USD1.350.7Billion, GDP per Capita of USD 1,363.8 and Area of 14.3Million sq.km.

2.1.2.9 The East African Community (EAC)

The East African Community (EAC) started in 1999 and is composed of six member countries: Rwanda, Burundi, Tanzania, South Sudan, Kenya and Uganda; their Headquarters are based in Arusha/ Tanzania.

The Establishment of the EAC Customs Union was marked by three Heads of State of Uganda, Kenya and United Republic of Tanzania on March 2004 in Arusha, at that point Rwanda and Burundi joined the Customs Union in 2008.

As per the East African Community (EAC) insights 2017, its size is 2.5 million square kilometers with a joined GDP of USD 172 billion; it has also a population of 172 million residents and 22% of them are urban populace.

The EAC Customs Union was made for targets of liberalize intra-local exchange merchandise and ventures visioning commonly valuable exchange courses of action among Partner States; advancement of effective creation inside the EAC Community; advancing monetary improvement and expansion in industrialization in the Community and upgrading cross-fringe, residential and outside interest in the Community; In 2010 the EAC customs association got changed into a typical market including free movement of capital, labor and services.

2.1.3. Preferential tariff rates comparison of the RTAs

Table1: Preferential Tariff Rates and Common External Tariffs (CETs)

		Most Favored Nation	Most Favored Nation	Common External Tariff	Common External Tariff
RTAs	Type	1995~2004	2005~2014	1995~2004	2005~2014
COMESA	CU	18%	12%	18%	11%
EAC	CU	16%	13%	15%	13%
CEMAC	CU	18%	18%	19%	18%
ECOWAS	CU	14%	12%	16%	13%
WAEMU	CU	12%	12%	14%	13%
SADC	CU	14%	10%	15%	9%
SACU	CU	8%	8%	8%	8%
ECCAS	FTA	16%	16%	FTA*	FTA*
UMA	FTA	22%	15%	FTA*	FTA*
CSSS	FTA	18%	14%	FTA*	FTA*
IGAD	FTA	17%	16%	FTA*	FTA*

Source: *Nicholas Ngepah (2018)*

(Ngepah, 2018), given that CU means Customs Union while FTA means Free Trade Area, the table explains the progress tariffs rates that have been applied within African Regional Trade Areas (RTAs) in two different range of periods (1995-2004) and (2005-2014), following these data in the range of 1995-2004 the Arab Maghreb Union (AMU or UMA) has applied the highest preferential tariff rates or the Most Favored Nation (MFN) at 22% while the Southern African Customs Union (SACU) has applied the lowest preferential tariff rates

at 8%, in the range of 2005-2014 the Central African Economic and Monetary Community (CEMAC) has applied the highest preferential Tariff rates at 18% while the while the Southern African Customs Union (SACU) has applied the lowest preferential tariff rates at 8%.

For the Customs Unions they also apply the common External tariffs (CETs) while the FTAs don't apply Common External Tariffs, in this end we find that in the range of 1995-2004 the Central African Economic and Monetary Community (CEMAC) has applied the highest Common External Tariff rates at 19% while the Southern African Customs Union (SACU) has applied the lowest Common External tariff rates at 8%; in the range of 2005-2014 same to the previous range of period the Central African Economic and Monetary Community (CEMAC) remained the highest CETs but reduced at 18% while the Southern African Customs Union (SACU) remained the lowest applied the CETs at 8%.

2.2. Review of other studies on Trade effects of FTAs

Globally, different researches have presented different results on trade effects of Free Trade Agreements for instance about the United States (USA) FTAs, (Baier, 2005) for his study, the findings showed that "an FTA will all things considered increment

two-part nations' trade around 86 percent following 15 years". This speaks to a gradual compound annual growth rate (CAGR) of 4.22%.

(Christophe Rault, 2009), investigated a significant number of the comparable outcomes when analyzing the FTA between the European Union and previous Eastern European nations before the EU development. Utilizing an econometric gravity model, their discoveries were that FTA had a positive and critical effect on trade flows.

In 2014, In relation with the 20th anniversary of the North America Free Trade Agreements (NAFTA), the study accurately noted that the bilateral trade of Mexico with US has grown more than importantly increased under NAFTA (Ismael Aguilar Barajas, 2014).

On the other hand, (A.Frankel, 1997) found non-important effects from the Andean Pact, significant negative effects from members of the EC, and positive significant effects from Mercosur.

2.3. Review of existing studies on Trade effects of African Regional Trade Areas (RTAs)

The Empirical examinations on the impacts of the Regional Trade Areas (RTAs) depend on the hypothesis of trade creation and trade diversion as said by (Viner, 1950);

the goal of such investigations is for the most part to recognize which of these two impacts is bound to occur or to win.

Since Viner (1950), Different investigations utilizing Gravity model have been directed to discover the impacts of Regional Trade Areas in Sub-Saharan Africa (SSA) on commerce among member Countries yet their investigations haven't been definitive conclusive. There are some other studies that have been done and found positive effects of Regional Trade Areas (RTAs) in Sub-Saharan Africa on intra-trade, while there are some others that argue that RTAs in SSA do not have a positive impact on intra-trade, though this study will analyze the Trade effects of these Free Trade Agreements through RTAs not only in SSA but all regions of Africa including North Africa to find out the trade effect of the Free Trade Agreements by the RTAs and compare the results with the existing literatures.

(Pritchett1, 1993) has been the first to utilize the gravity model to investigate the intra-African trade of SSA by comparing its actual trade and what could be expected, concluded that it was too low. (Elbadawi, 1997), utilizing a similar methodology, explained that the experience of regional integration in Sub-Sahara Africa (SSA) has been a disappointment, as in other developing Nations (case of Latin America).

This disbelief about the impacts of Regional Trade Areas (RTAs) on intra-African trade has been upheld hitherto by other various Authors; (KIRKPATRICK, 2005)) breaking down the East African trade cooperation, 1970–2000 among its members

Kenya, Uganda and Tanzania found that regional trade cooperation has positively affected the development of trade between the three economies.

There are some Empirical analysis that have been conducted to assess the trade effects of the Regional Trade Areas (RTAs) in Central and west Africa, particularly in ECCAS, (Musila, 2005) by using gravity model conducted a research to find the trade effect of the ECCAS, ECOWAS and COMESA for the period 1991-1996; He found that ECOWAS and COMESA have made a trade creation but ECCAS did not.

(Avom, 2005), utilizing the gravity model, including six of the ten individuals from ECCAS found that have had next with no impact on intra-CEMAC trade member State. Mata (2008), in an examination of the trade effect of the CEMAC for Cameroon, Congo, and Gabon inferred that the foundation of the CEMAC has not enhance trade between these nations.

(Turkson, 2012), analyzing regional trade by utilizing a gravity model for the period 1960-2006, additionally found that the Economic Community for the Central African States (ECCAS) had no beneficial outcome on trade among its member Countries while SADC, EAC, ECOWAS, and IGAD positively affected their intra-exchange and that constructive outcome was sporadically more prominent than the impact of the non-reciprocating trade agreements with the European Union.

These discoveries yet are in opposition to (Cernat, 2001), by evaluating the instance of SADC, COMESA, and ECOWAS for the years 1994, 1996 and 1998, has discovered

that these RTAs had expanded their trade among the member states against the non-member states.

These Empirical outcomes have been additionally affirmed by (Céline Carrère, 2004) who found that SADC and ECOWAS have made a genuine increment in trade among their member nations for the period 1962-1996. (Afesorgbor, 2011), (by utilizing the gravity model for the period 1995-2006, likewise have discovered that the ECOWAS and SADC had a positive and significant impact on intra-trade streams.

What's more, by utilizing a gravity model onboard examination for 130 nations (Cèline Carrère, 2006) uncovered that ECOWAS, COMESA, SADC, and CEMAC trade agreements had effectively affected their intra-trade flows.

These constructive outcomes for CEMAC agreements have been affirmed by (Gbetnkom, 2008)) who found a thorough positive effect of being member from that network on intra-trade after the 1994 restructuring.

CHAPTER III: RESEARCH METHODOLOGY

This part of the research will mainly discuss methods that will be used to analyze data, type of data and the source of the data.

As the objective of this research is to find out the trade effect of the African Free Trade Areas (FTAS), in this part we will use the Quantitative methods that will be to analyze the secondary data from different sources. It will discuss the important variables (dependent and independent) that will be used to test the relationship between the establishment of FTA and the increase or decrease of trade volume of its member States.

Due to the availability of data, this research will use the panel data regression analysis for the data of 52 countries of the African continent for a period of 10years, from 2008 to 2017.

This research again will use the AFTZ as a sample of African FTAs as it is the biggest FTA in Africa by 2017, which is composed by 26 countries almost half of the African continent.

3.1 DATA AND VARIABLES

3.1.1 Source of Data

The data that will be used in this research will be secondary data that will be collected from different sources; the needed data are those to be used as variables(Dependent or independent) such as Gross Domestic Product (GDP) will be collected from World Development Indicators (WDI), Population from World Development Indicators (WDI), data for Distance will be collected from Centre d'Etude Perspectives et d'Information International (CPII), Trade volume (sum of Imports and exports) data that will be collected from the World Integrated Trade Solution(WITS), Data for membership of countries to an FTA will be collected from World Trade Organization (WTO).

3.1.2 Dependent Variable

The Trade volume (in US Dollars) which will be the sum of the imports and exports of a country in research, it will be used to assess the trade flow variation and it is the variable that will help the researcher to draw a conclusion due its behavior after the regression analysis of this study.

3.1.3 Independent variables

1. GDP

As defined by the World Development Indicators (WDI) “GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products”. Data are in current U.S. dollars.

The Gross Domestic Product (GDP) speaks about the economic size of two countries and refer to the production capacity and size of a market.

This study will utilize the GDP (US Dollars) of the nations in the investigation to evaluate its effect on Trade Volume. In International Trade Relations, on one hand, the more two nations produce, the more prominent the GDPs and the more noteworthy the trade flows between them, then again, the more distant the separation between two nations, the lower the trade flows between them.

2. Population

As defined by the World Development Indicators(WDI), “Total population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship. The values shown in the study are midyear estimates”.

The researcher will use the population to assess the level of production and consumption; a more populated country is supposed to have the labor-intensive and production can be bigger than a country that has a small number of population though the exports can be increased as more as a country is populated, again a more populated

country is supposed to have high consumption than a less populated country though the imports can be increased as more as a country is more populated.

Countries with a high production capacity, they also have a large domestic market and tend to get economies of scale that improve their comparative advantage.

This country can import more merchandise and every one of these exchanges increment the GDP of the nation. Hence, it very well may be suggested that the more noteworthy the result of the two nations' GDPs, the more noteworthy the two-sided trade volume between them (Sohn 2005**)**

Data used have been extracted from the World Bank, the World Development Indicators(WDI).

3. Distance

Transportation costs have been for so long a fundamental part of worldwide trade. The more distant separation and more unfortunate infrastructure increment transport costs. Redesigning the framework will prompt a decrease in transport cost and therefore, the volume of trade will increment.

A significant reality is that the transport cost is as yet taking a major part in trade costs. The transportation cost will build the cost and the buyer from the importing nation should pay for it. “Transport cost is one of the significant obstructions to the reciprocal trade flows” (Molders et al. 2011).

Economies of scale spoke to in terms of trade volume are pertinent to clarify the assortment of transport costs. Monetary approaches that can diminish transportation

cost is successful to build competitiveness. The other method to upgrade competitiveness is to put resources into port infrastructures just as other transport frameworks (Zarzoso et al. 2005).

This research will use the distance as an independent variable to assess its influence on exports and imports variation level, it is obvious that as long as a distance between country A and country B the transportation costs increase while on the counterpart as shorter as a distance between country A and country B the transportation costs decrease.

This study will use the distance between the capital cities of two countries in trade, Data that will be used are found at the Centre d'Etude Perspectives et d'Information International (CPII).

3.2 Methodology

3.2.1 Model (Gravity model)

The gravity model is one of the most valuable strategies that are utilized to break down global trade relations, especially in surveying reciprocal trade flows. This model depends on Newton's hypothesis that "the gravitational power among two things is straightforwardly comparable to the result of the majority of the things and conversely proportionate to the geographical distance between them" (Burger et al. 2009). The gravity model has been utilized to

survey the ramifications of the trade strategy, particularly to analyze the effects of FTA on the global trade, Kepaptsoglou et al. (2010).

The basic gravity formula points out that "the trade flow among two countries is positively proportional to their economic masses and can be reflected by the countries' GDPs, and adversely by the distance between them" though with this model, the researcher will be able to analyze the effect of free trade Areas on Trade volume of their member States, it will use different variables such as GDP, Distance between 2 countries (Distance from capital), Population, and dummies. This study will use Statistical Data analysis and will find the Empirical results that will help to draw the conclusion of the study and provide policy recommendation on the Free Trade Agreements (FTA) in Africa.

The Free Trade Agreement positively affects the trade flows on the off chance that meet the states of positive and noteworthy with the coefficient (Plummer et al. 2010).

It is in that regard the Researcher with the equation below will use the Stata to analyze the statistical data to find the results of the study.

$$\text{Ln TVOLijt} = \beta 0+\beta 1\text{lnGDPjt}+ \beta 2\text{lnPopjt}+ \beta 3\text{lnDistij}+ \beta 4\text{EACij}+\beta 5\text{SADCij}+\beta 6\text{COMESAij}+\beta 6\text{IGADij}+ \beta 7\text{AMUij}+ \beta 8\text{ECOWASij}+ \beta 9\text{ECCASij}+\beta 10\text{CEN-SADij}+\mu ij$$

Where β: is the constant

Tvolijt: is trade of volume of country i in year t

GDPjt: is the Gross Domestic Product of country j in year t

Popjt: is the Population of a country j in year t

Distij: is the Distance between capital cities of country i and j

EACij: is 1 if both countries i and j are members of EAC, 0 otherwise

SADCij: is 1 if both countries i and j are members of SADC, 0 otherwise

COMESAij: is 1 if both countries i and j are members of COMESA, 0 otherwise

IGADij: is 1 if both countries i and j are members of IGAD, 0 otherwise

AMUij: is 1 if both countries i and j are members of AMU, 0 otherwise

ECOWASij: is 1 if both countries i and j are members of ECOWAS, 0 otherwise

ECCASij: is 1 if both countries i and j are members of ECCAS, 0 otherwise

CEN-SADij: 1 if both countries i and j are members of CEN-SAD, 0 otherwise

μij: Is the log normally-distributed error term

3.2.2 Choice of Countries for Analysis

In this research, the Researcher has chosen one country among the member States of a Regional Trade Area (RTA) and due to limitation of unavailability of data all RTAs have not be represented. One country will be chosen to represent a Regional Trade Area (RTA); criteria of the choice will be based on first, the availability of data of a country in the assessed period (2008-2017), second the location (one country per region), third the type of Country (Island and non-Island).

Due to the criteria said above, this research will study and analyze the data of the 5 following case studies (countries) of different membership to the Regional Trade Areas (RTAs):

Egypt member of the Common Market for Eastern and Southern Africa (COMESA) and The community of Sahel-Saharan States (CEN-SAD), **Algeria** Member of the Arab Maghreb Union (AMU), **South Africa** member of The Southern Africa Development Community (SADC), **Madagascar** member of the Common Market for Eastern and Southern Africa (COMESA) and The Southern Africa Development Community (SADC), and **Tanzania** member of the East Africa Community(EAC).

CHAPTER IV: FINDINGS AND INTERPRETATION

This part of research will discuss the findings to respond to the research question, the empirical results found will be interpreted and tested in order to find if they answer the research question and confirm or reject the null hypothesis.

In this research, we will analyze the trade volume of 5 single countries considering their memberships to the Regional Economic Communities which considered also as Regional Trade Areas or Trade Blocs.

Due to the criteria cited in this study, we will analyze the trade volume for 5 case studies; **Algeria** Member of the Arab Maghreb Union (AMU), **Egypt** the member of Common Market for Eastern and Southern Africa (COMESA) and the community of Sahel-Saharan States (CEN-SAD), **Madagascar** member of Southern Africa Development Community (SADC) and the Common Market for Eastern and Southern Africa (COMESA), **South Africa** member of the Southern Africa Development Community (SADC) and finally **Tanzania** member of the East African Community (EAC).

4.1 ALGERIA

Algeria normally called the People's Democratic Republic of Algeria (PDRA) is a country located in the Maghreb region, its capital city is Algiers, it has an area of

2,381,741 square kilometers (919,595 sq. mi), is the largest country in Africa. Algeria is bordered to the northeast by Tunisia, to the east by Libya, to the west by Morocco, to the southwest by the Wester Saharan territory, Mauritania, and Mali, to the southeast by Niger, and to the north by the Mediterranean Sea). It has the highest human development index of all the non-island African countries.

Algeria is a Member of the African Union (AU), The Organization of the Petroleum Exporting Countries (OPEC), the Arab League(AL), the United Nations (UN) and is a founding member of the Arab Maghreb Union(AMU) .

Algeria is the Fourth largest country of Africa with a GDP of USD 183.687 Billion with a population of 183.687 Million (2019 est.). to compute the trade effects of membership of Algeria to AMU to its trade volume we will use the equation below:

Algeria Trade volume:

$$\text{Ln TVOL}_{ijt} = \beta_0 + \beta_1 \text{lnGDP}_{jt} + \beta_2 \text{lnPop}_{jt} + \beta_3 \text{lnDist}_{ij} + \beta_7 \text{AMU}_{ij} + \mu_{ij}$$

Table 2: Descriptive Statistics for Algeria

Variables	**Obs.**	**Mean**	**Std.**	**Min**	**Max**
Trade Volume	484	6.90	3.52	-3.03	14.57
GDP current	509	23.14	1.57	19.05	27.06
Population	514	15.69	1.60	11.37	19.06
Distance	510	8.34	0.52	6.46	9.05

Source: Researcher calculations

Table 3: Panel Regression Results of Algeria, Member of AMU

Dependent Variable: Trade Volume

Independent Variables	Model 1	Model 2

lnGDP current	0.73*** (5.80)	0.58*** (4.65)
lnPopulation	0.24** (2.01)	0.39*** (3.23)
lnDistance	-2.46*** (10.53)	-1.59*** (5.59)
AMU		**2.80***** **(5.07)**
Constant	6.70** (2.22)	0.16 (0.05)
R^2	41%	44%
Number of obs.	465	465

Source: Researcher calculations

Notes: t-stat are in brackets
*****Significant at 1%**
****Significant at 5%**
***Significant at 10%**

The Results of the trade Data analysis of Algeria in the period of 2008-2017 presented in table 2 using the Gravity model on the independent variables that describe the trade volume, we run regressions in two models first model gives estimates of the basic gravity model, model 2 gives estimates of the gravity model with the dummy variable which is also captures the full gravity equation;

The results showed that the variables GDP and Population were positively significant at 1% level in explaining trade volume, while Distance was negatively significant at 1% level in explaining the trade volume. These results indicate that an increase of 1 unit of GDP increase trade volume by 58%, an increase in 1 unit of population increase trade volume by 39% while an increase of 1 unit of distance decrease trade volume by 159%.

The trade between Algeria and member States of AMU by which is member state found positively significant at 1% level in explaining its trade volume, the results showed that the fact that Algeria is member State of AMU has increased its trade volume by 280%.

4.2. EGYPT

Egypt formally the Arab Republic of Egypt, is a nation in the North East corner of Africa, Egypt is circumscribed by the Gulf of Aqaba and the Red Sea toward the east, the Gaza Strip and Israel toward the upper east, Sudan toward the south, Libya toward the west, and the Mediterranean Sea toward the north. Egypt is part of African Union, and the Organization of Islamic Cooperation (OIC).

Egypt is the third biggest economy of Africa with a GDP of USD 299.589 Billion (2019 appraisals) after Nigeria and South Africa, it is the third crowded nation in Africa with Population of 100,388,073 Million after Nigeria and Ethiopia (2019 est.); Egypt is member of the Regional Trade Areas of COMESA and CEN-SAD. To compute the trade effect of the membership of Egypt to COMESA and CEN-SAD to its trade volume we will use the equation below:

Egypt trade volume:

Ln TVOLijt = β0+β1lnGDPjt+ β2lnPopjt+ β3lnDistij+β4COMESAij+β5CEN-SADi+μij

Table 4: Descriptive Statistics for Egypt

Variables	**Obs.**	**Mean**	**Std.**	**Min**	**Max**
Trade Volume	499	9.59	2.36	-0.01	14.27
GDP current	509	23.14	1.56	19.05	27.06
Population	514	15.87	1.58	11.37	19.06
Distance	510	8.32	0.36	7.38	9.15

Source: Researcher calculations

Table 5: Panel Regression Results of Egypt Member of COMESA and CEN-SAD

Dependent Variable: Trade volume

Independent Variables	Model 1	Model 2	Model 3
lnGDP current	0.87*** (10.85)	0.89*** (11.45)	1.00*** (12.57)
lnPopulation	0.00 (0.11)	0.42 (0.53)	-0.01 (0.24)
lnDistance	-1.97*** (8.44)	-1.61*** (6.84)	-1.09*** (4.28)
COMESA		**0.91***** **(5.36)**	**1.25***** **(6.91)**
CEN-SAD			**0.83***** **(4.72)**
Constant	5.67** (2.24)	1.33 (0.51)	-5.05* (1.76)
R^2	49%	52%	54%
Number of obs.	478	478	478

Source: Researcher calculations

Notes: t-stat are in brackets
*****Significant at 1%**
****Significant at 5%**
***Significant at 10%**

The Results of the trade Data analysis of Egypt in the period of 2008-2017 presented in table 4, we run regressions in 3 models first model gives estimates of the basic gravity model, model 2 gives estimates of the gravity model with the COMESA dummy variable and model 3 that augment the CEN-SAD dummy variable which also captures the full gravity equation; the results showed that the GDP was positively significant, population was negative insignificant while distance was negatively significant in explaining the trade volume this indicates that an increase of 1 unit of GDP increase trade volume by 100%, while an increase of 1 unit of distance decrease trade volume of Egypt by 109%.

Egypt as member of CEN-SAD and COMESA, its trade with COMESA and CEN-SAD member countries was positively significant at 1% level, where its membership increased its trade volume by 125% and 83% for COMESA and CEN-SAD respectively.

4.3. MADAGASCAR

The Republic of Madagascar is an island country in the Indian Ocean, approximately 400 kilometers (250 miles) off the coast of East Africa, it is the global 2nd largest island country and the fourth-largest island.

Madagascar has a GDP of 12.734 Billion (2019 est.) and has a population of 26,969,307 Million (2019 est.), it is a member of the COMESA and SADC. To compute the trade effect of the membership of Madagascar to the COMESA and SADC to its trade volume we will use the equation below:

Madagascar Trade volume:

$$\text{Ln TVOL}_{ijt} = \beta_0+\beta_1 \text{lnGDP}_{jt}+ \beta_2 \text{lnPop}_{jt}+ \beta_3 \text{lnDist}_{ij}+\beta_4 \text{SADC}_{ij}+\beta_5 \text{COMESA}_{ij}+\mu_{ij}$$

Table 6: Descriptive Statistics for Madagascar

Variables	**Obs.**	**Mean**	**Std.**	**Min**	**Max**
Trade Volume	462	5.58	3.04	-4.34	12.49
GDP current	509	23.20	1.62	19.05	27.06
Population	514	15.90	1.60	11.37	19.06
Distance	510	8.28	0.58	6.82	9.06

Source: Researcher calculations

Table 7: **Panel Regression Results of Madagascar, Member of COMESA and SADC**

Dependent Variable: Trade Volume

Independent Variables	Model 1	Model 2	Model 3
lnGDP current	1.36*** (11.61)	1.45*** (11.75)	1.44*** (11.59)
lnPopulation	-0.57*** (4.79)	-0.65*** (5.25)	-0.64*** (5.15)
lnDistance	-2.14*** (10.89)	-2.56** (9.48)	-2.36*** (6.69)
SADC		**-0.81**** **(2.26)**	**-0.66*** **(1.68)**
COMESA			**0.27** **(0.88)**
Constant	0.71	3.50	1.83

	(0.33)	(1.41)	(0.58)
R^2	37%	38%	38%
Number of obs.	444	443	443

Source: Researcher calculations

Notes: t-stat are in brackets
*****Significant at 1%**
****Significant at 5%**
***Significant at 10%**

The results presented above in table 6, are the results found by analysis of trade data of Madagascar for the period 2008 -2017 with the African Regional Trade Areas(RTAs) member states, Madagascar is a member of two African RTAs to know: The Southern African Development Community (SADC) and the Common Market for Eastern and Southern Africa (COMESA), using the gravity model the results

we run regressions in 3 models first model gives estimates of the basic gravity model, model 2 gives estimates of the gravity model with the COMESA dummy variable and model 3 that augment the SADC as dummy variable which also captures the full gravity equation; the results showed that the GDP was positively significant at 1% level, it showed that an increase in 1 unit of DGP increased 144% in explaining the Trade volume, contrary to the distance which showed that increase of 1 unit of distance reduced the trade volume by 236% while the population variable its results showed that an increase in one unit of population decreased also the trade volume by 64% .

The results showed that again the fact that Madagascar was member of COMESA didn't increase its trade volume, the results showed an insignificant impact on trade

volume of Madagascar on the other hand the fact that Madagascar was a member of SADC has decreased its trade volume by 66 %.

After the findings, The Researcher tried to find the reasons of the negative trade of Madagascar with the Member countries of SADC, the Researcher found that this negative trade effect has relationship with the political instability caused by regime change revolutions in Madagascar in the period of 2009-2013, in this period of political instability Madagascar has been suspended in SADC as well the African Union (AU) and the African Growth Opportunity Act (AGOA) as economic sanctions.
Due to this cause; in this period of political instability in Madagascar the Foreign investments (FDI) have stopped and the exports towards the SADC member countries could not have the existing privilege of preferential tariffs due to the suspension of its membership to the community; though the political instability was found to be on the core cause of the negative trade effect towards SADC member States.

The World Bank (2013), showed that the Madagascar's economy has stagnated in the period of 2009-2013, as a result of the economic stagnation its per capita income in 2013 has fallen back to its 2001 level and the foreign aid has dropped by 30% and the large share of the aid concentrated to humanitarian programs in 2013.

4.4. SOUTH AFRICA

The Republic of South Africa (RSA) it is restricted toward the south by 2,798 kilometers (1,739 mi) of coastline of Southern Africa extending along the South Atlantic and Indian Oceans; toward the east and upper east by Mozambique and Eswatini (Swaziland); toward the north by Namibia, Botswana, and Zimbabwe; South Africa is the biggest nation in Southern Africa and the 25th-biggest nation on the planet via land region.

South Africa is the second-biggest economy in Africa and 31st in World with a GDP of USD 371.298 Billion (2019 est.) and is fifth generally crowded of Africa with a populace of 58,558,270 Million, South Africa is situated in the southern area of Africa is an individual from SADC.

To compute the trade effect of the membership of South Africa to SADC to its trade volume we will use the equation below:

South Africa trade volume:

Equation: $\text{Ln TVOLijt} = \beta 0 + \beta 1 \text{lnGDPjt} + \beta 2 \text{lnPopjt} + \beta 3 \text{lnDistij} + \beta 4 \text{SADCij} + \mu ij$

Table 8: Descriptive statistics for South Africa

Variables	Obs.	Mean	Std.	Min	Max
Trade Volume	515	11.24	2.39	2.62	15.62
GDP current	509	23.133	1.55	19.05	27.06
Population	514	15.88	1.59	11.37	19.06
Distance	510	8.07	0.82	5.54	9.29

Source: Researcher calculations

Table 9: Panel Regression Results of South Africa, Member of SADC

Dependent Variable: Trade Volume

Independent Variables	Model 1	Model 2
lnGDP current	0.92*** (11.51)	0.72*** (9.40)
lnPopulation	-0.18** (2.30)	0.34 (0.45)
lnDistance	-1.40*** (14.87)	-0.43*** (3.33)
SADC		**2.58***** **(9.93)**
Constant	3.99*** (2.91)	-3.09** (2.15)
R^2	47%	56%
Number of obs.	494	493

Source: Researcher calculations

Notes: t-stat are in brackets
*****Significant at 1%**
****Significant at 5%**
***Significant at 10%**

The Results of the trade Data analysis of South Africa in the period of 2008-2017 presented in table 6, regressions were done in models one to explain the basic gravity model and the second that included the SADC as dummy variable, the results showed that the GDP was positively significant at 1% level in explaining trade volume indicating that an increase of 1 unit of GDP increases 72% of the trade volume; the results for Population were insignificant while Distance was negatively significant at 1% level in explaining the trade volume showing that an increase in distance of 1 unit decrease the trade volume by 43%.

The trade effect between South Africa and member States of SADC by which is a member has been positively significant, the fact that South Africa is a member of SADC has increased its trade volume by 258%.

4.5. TANZANIA

The United Republic of Tanzania is a nation situated in East Africa inside the African Great Lakes area. It outskirts Uganda toward the north; Kenya toward the upper east; Comoros Islands at the Indian Ocean, toward the east; Mozambique and Malawi toward the south; Zambia toward the southwest; and Rwanda, Burundi, and the Democratic Republic of the Congo toward the west.

Tanzania is the tenth biggest economy in Africa with a GDP of USD 61.032 Billion (2019 EST.) and is the sixth generally crowded in Africa with a populace of 58,005,463 Million; as situated in East Africa it is an individual from East Africa Community (EAC).

Tanzania trade volume:

$$\text{Ln TVOL}_{ijt} = \beta_0 + \beta_1 \text{lnGDP}_{jt} + \beta_2 \text{lnPop}_{jt} + \beta_3 \text{lnDist}_{ij} + \beta_4 \text{EAC}_{ij} + \mu_{ij}$$

Table 10: **Descriptive statistics for Tanzania**

Variables	**Obs.**	**Mean**	**Std.**	**Min**	**Max**
Trade Volume	495	7.62	3.13	-2.93	14.46
GDP current	509	23.17	1.61	19.05	27.06

Population	514	15.88	1.59	11.37	19.06
Distance	510	7.96	0.65	6.32	9.31

Source: Researcher calculations

Table 11: Panel Regression Results of Tanzania, Member of EAC

Dependent Variable: Trade Volume

Independent Variables	Model 1	Model 2
lnGDP current	0.85*** (7.99)	0.87*** (8.05)
lnPopulation	-0.83 (0.77)	-0.11 (1.00)
lnDistance	-2.79*** (17.38)	-2.66*** (13.04)
EAC		**0.49** **(0.99)**
Constant	11.18 (5.87)	10.21*** (4.77)
R^2	46%	46%
Number of obs.	474	474

Source: Researcher calculations

Notes: t-stat are in brackets
*****Significant at 1%**
****Significant at 5%**
***Significant at 10%**

The Results of the trade Data analysis of Tanzania in the period of 2008-2017 presented in table 8, by running regressions the results showed that the GDP was positively significant in explaining the trade volume, the results for population were insignificant while the Distance was negatively significant at 1% level in explaining the trade volume indicating that an increase of 1 % unit of distance decrease 266% of

trade volume. The trade effect between Tanzania and member States of the EAC by which is a member has been insignificant.

IV.2. HYPOTHESIS TESTING

Within this part of the research we will confirm or reject the null hypothesis due to the results of the analysis, the hypothesis testing will be based on each country by which we analyzed its trade data.

According to the objective of the study of this which was to find out the trade effect of the African FTAs on Trade volume, the researcher expect that the Free Trade Agreements would increase a member country's trade volume.

ALGERIA: as member State of AMU, we found that being member of AMU has increased its trade volume by 280%, though we confirm the Null hypothesis.

EGYPT: as member of COMESA and CEN-SAD, being the member of both RTAs has increased its trade volume by 125% and 83% respectively though we confirm the null hypothesis.

MADAGASCAR: On one hand as a member of COMESA its results were insignificant and the researcher won't draw any conclusion on this case, on the other Madagascar being a member of SADC has decreased its trade volume by 66%, though we reject the null hypothesis.

SOUTH AFRICA: as a member of SADC has increased its trade volume by 258%, though we confirm the null hypothesis.

TANZANIA: as a member of EAC, its results were insignificant and the researcher won't draw any conclusion.

CHAPTER V: CONCLUSION AND RECOMMENDATIONS

This part will include the empirical findings, general conclusion for the findings of the research, policy recommendation and recommendation for further studies in the field of International trade especially in Africa.

5.1. EMPIRICAL FINDINGS

According to the objective of the research which was to find out if the fact that a country joins an FTA in Africa increases its trade volume, we conducted an analysis of trade data for 5 countries (case studies) located in different regions of Africa and grouped in different Regional Economic communities for the period of 10 years from 2008 to 2017, every country was analyzed for its trade with 53 African countries excluding South Sudan due to lack of data.

First country in which we conducted our research was Algeria located in the North region of Africa member of the Arab Maghreb Union (AMU), the results showed that being a member of AMU increased its trade volume of by 280%; second country was Egypt located in the North East corner of Africa, member of the Community of Sahel-Sahara States (CEN-SAD) and the Common Market for Eastern and Southern Africa (COMESA), the results showed that being a member of COMESA has increased its trade volume by 205% while being member of CEN-SAD increased its trade volume by 83%.

The third Country in which we conducted our research was Madagascar, an Island country located in the Indian Ocean in South Eastern coast of Africa, member of the Common Market for Eastern and Southern Africa (COMESA) and the Southern African Development Community (SADC), the results showed that Madagascar being member of COMESA has not increased its trade volume while being member of SADC has decreased its trade volume by 66%, the main reason of the negative trend of its trade has been found to be the political instability caused by regime change revolutions that took place in Madagascar for the period of 2009-2013 and at this time the Madagascar has been suspended as member of SADC during that period of insecurity which made Madagascar to have a negative trade effect towards the SADC member countries.

The fourth country was the South Africa which is located in the Southern part of Africa, the member of the Southern Africa Development Community (SADC), the results showed that South Africa being a member of SADC has increased its trade by 258%.

The last country in which we conducted our research was Tanzania, the country located in East part of Africa member of the East African Community (EAC), the results showed that Tanzania being member of the EAC didn't increase its trade volume.

The researcher expected that a country being a member of an FTA would increase the trade volume of that country but with the findings, the results showed that due to different circumstances a country may increase its trade volume. According to the

presented results we found that the Algeria member of AMU is the one that made a great increase in trade while Madagascar as member of COMESA has made great declines in trade volume during the period in study.

5.2. POLICY RECOMMENDATION

Looking at the results of this research we found that the establishment of the Regional Economic Communities (RECs) or the Regional Trade Areas (RTAs) has made an increase of trade volume to the member countries for majority cases except for the countries that had special reasons as found in Madagascar, as currently the African Continent Free Trade Area (AfCFTA) is newly entered into force (May 2019) following the African union (AU) Agenda 2063, since the political stability was found to be a core cause of the negative trade effect in our research, we would recommend that countries members of the AU should work together to solve the problems of political instability and fix the issue of regime transfer without wars and insecurity that destruct economies of African countries considering also that when a country engage in internal conflicts it doesn't only affect its economy but the entire regional economy and widely the African and Global economy; with consideration and take action on the last said factor the existing Regional Economic Communities (RECs) and the AfCFTA will have a positive trade effect and will be the cornerstone for the future of African economy.

Without ignoring the non-tariff barriers, the free trade and/ or political stability themselves are not enough to allow or to increase imports or exports of any country, though my recommendations go to the African RECs and Africa in whole to consider and fix measures for alleviation of non-tariff barriers that delay or affect negatively the international trade performance towards their countries or their neighbors.

5.3. RECOMMENDATION FOR FURTHER STUDIES

Different researches have been conducted about the African Regional Trade Areas(RTAs) but still are not enough to showcase the reality of the African trade especially the Intra-Africa trade and Intra-regional trade, there is still a gap in researches regarding the African trade, some which are done seem to be bias and don't reveal the reality on field thus my recommendations go to future researchers to deeply research on the real factors of poor performance of African trade which will be base of policy reforms for economic performance and that will raise generally the life standards of African continent.

5.4 CONCLUSION

International trade is a very important component of Globalization and is one of the best conductors of the World economic development, African countries as the other rest of the World need to improve and enforce their trade policies to alleviate all trade

barriers that cause the non-performance of trade by which their economies would be raised up.

As the objective of this study was to find the trade effect of the African Free Trade Areas (FTAs), according to the findings of this study we found that the Free Trade Agreements and the customs unions in Africa have contributed significantly to the Trade volume of the member States for the cases of Algeria (AMU), South Africa (SADC) and Egypt (COMESA) but in case of Madagascar the member State of COMESA and SADC, being member State of SADC has decreased its trade volume due to suspension by SADC in the period of 2009-2013 the period in which political instability took place in the country that meant the trade declines have significant relationship with political instability.

(Sekkat, 2004), by examining and highlighting the specific obstacles that impede the intra- African trade, he found that infrastructure unavailability, economic policy, and internal political tensions had a negative impact on Intra-African trade.

Therefore, in Africa and/ or anywhere else in the World the trade performance would be achieved if there is political will for Nations' stability and resolution of other trade barriers as well.

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ANNEX 1. LIST OF COUNTRIES USED IN THE STUDY

1. Algeria	27. Lesoto
2. Angola	28. Liberia
3 Benin	29. Libya
4. Botswana	30. Madagascar
5. Burkina Faso	31. Malawi
6. Burundi	32. Mali
7. Cabo Verde	33. Mauritania
8. Cameroon	34. Mauritius
9. Central African Republic (CAR)	35. Morocco
10. Chad	36. Mozambique
11.Comoros	37. Namibia
12.Congo, Democratic Republic of the	38. Niger
13. Congo, Republic of the	39. Nigeria
14.Cote d'Ivoire	40. Rwanda
15.Djibouti	41. Sao Tome and Principe
16.Egypt	42. Senegal
17.Equatorial Guinea	43. Seychelles
18. Eritrea	44. Sierra Leone
19.Eswatini (formerly Swaziland)	45. Somalia
20.Ethiopia	46. South Africa
21.Gabon	47. Sudan
22. Gambia	48. Tanzania
23.Ghana	49. Togo
24.Guinea	50.Tunisia
25. Guinea-Bissau	51. Uganda
26. Kenya	52.Zambia
	53. Zimbabwe

ANNEXE 2: LIST OF THE REGIONAL TRADE AREAS (RTAs) AND THEIR MEMBER STATES

Regional Trade Area	Type	Year of formation	Members
AMU	**Free Trade Area**	**1989**	Algeria, Libya, Mauritania, Morocco and Tunisia
CEN-SAD	**Free Trade Area**	**1998**	Benin, Burkina Faso, Central African- Republic, Chad, The Comoros, Cote- d'Ivoire, Djibouti, Egypt, Eritrea, The Gambia, Ghana, Guinea Bissau, Libya, Mali, Mauritania, Morocco, Niger, Nigeria, Senegal, Sierra Leone, Somalia, The Sudan, Togo and Tunisia
COMESA	**Customs Union**	**1994**	Burundi, Comoros, Congo, Dem Rep., Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Somalia, Sudan, Swaziland, Tunisia, Uganda, Zambia, and Zimbabwe and its Headquarters are based in Lusaka/ Zambia.
ECCAS	**Free Trade Area**	**1983**	Chad, Cameroon, the Central African- Republic (CAR), Congo Brazzaville, the Democratic Republic of Congo (DRC), Gabon,

			Equatorial Guinea, Burundi, and Sao Tome and Principe
ECOWAS	**Customs Union**	**1975**	Benin, Burkina Faso, Cape- Verde, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo
EAC	**Customs Union**	**1999**	Burundi, Kenya, Rwanda, South Sudan, Tanzania, and Uganda
IGAD	**Free Trade Area**	**1996**	Djibouti, Ethiopia, Eritrea, Kenya, Somalia, the Sudan, South Sudan and Uganda.
SADC	**Customs Union**	**1992**	Angola, Botswana, Comoros, Democratic-Republic of Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South-Africa, Tanzania, Zambia and Zimbabwe.

초록

아프리카 자유무역구역(FTAs)은 아프리카 지역 국가들이 관세 인하를 통해 다른 지역경제공동체(RECs) 혹은 지역무역구역(RTAs) 내 상품과 서비스의 교역을 증진하도록 하는 지역 경제 통합의 가장 중요한 목적 중 하나이다.

본 연구는 아프리카자유무역지역(FTAs)의 설립 목적을 분석하고, 그레비티 모형(Gravity Model)을 활용하여 그 효과를 분석하고자 한다. 분석 결과, 지역무역지대(RTAs)의 회원 국가의 무역량은 상당히 증가하였으나, 비회원국의 교역량은 감소한 것으로 나타났다. 비회원국의 교역량의 감소는 정치적 불안정성과도 깊은 연관이 있는 것으로 분석되었으며, 이는 결국 국가의 무역 실적은 관세 인하 효과뿐만 아니라 국가의 정치적 의지에 의해 달성된다는 것을 나타낸다.

주제어: 아프리카 자유무역구역(FTAs), 교역량, 그레비티 모델(Gravity Model)

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