

**GHANA-EU ECONOMIC PARTNERSHIP AGREEMENTS:
AN EMPIRICAL ANALYSIS OF TRADE CREATION AND TRADE DIVERSION**

By

ASANTE-AGYEI, Ofori

THESIS

Submitted to
KDI School of Public Policy and Management
in partial fulfillment of the requirements
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Committee in charge:

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ABSTRACT

GHANA-EU ECONOMIC PARTNERSHIP AGREEMENTS: AN EMPIRICAL ANALYSIS OF TRADE CREATION AND TRADE DIVERSION

By

Asante-Agyei, Ofori

This study sought to examine the trade creation and trade diversion effects that will emanate out from the signing and ratification of the Economic Partnership Agreements (EPAs) between Ghana and the EU. The EPAs being a bilateral trade agreement, guarantees a duty-free and quota-free market access on almost all product from Ghana to EU with a reciprocal market access of 85% of EU products into Ghana. The results of the regressions run establishes that there is an inverse relationship between remoteness and Ghana's exports to the EU in that an increase in remoteness results in a decrease in Ghana's exports and also an increase in inflation in importing countries (EU) results in a decrease in Ghana's exports.

In order to fully explore the welfare benefits which will emanate from the EPAs, the study recommends an effective implementation of the National Export Strategy. This strategy will deal with two main issues. These are the diversification of Ghana's exports and an improvement in the business environment in Ghana.

Key words: Cointegration, Reciprocity, Trade Creation and Trade Diversion

DEDICATION

To my lovely wife, Diana Asante and daughters, Akua and Somah

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LIST OF ACRONYMS

ACP	African Caribbean and Pacific
CPI	Consumer Price Index
CSOs	Civil Society Organizations
EBA	Everything But Arms
ECOWAS	Economic Community of West African States
EPAs	Economic Partnership Agreements
EU	European Union
FTA	Free Trade Area
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GSP	Generalized System of Preference
IEPA	Interim Economic Partnership Agreement
LDC	Least Developed Country
MFN	Most Favoured Nation
NAFTA	North American Free Trade Agreement
UEMOA	West African Economic and Monetary Union

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

The European Union is the largest and most important trading partner of African, Caribbean and Pacific (ACP) countries¹. ACP countries' imports and exports to the EU constitute 24.1% and 28.0% of its total world trade volume respectively in 2014. These mutual trade accords between ACP countries and the EU partly have its ties to historical antecedents. In pursuance of improved trade between these two trading blocks, and with the eventual foresight of boosting development and economic growth in ACP countries, there have been the signings of a number of trade agreements. Paramount amongst these were the Lomé I to IV Conventions and the Cotonou Agreement which elapsed in 2000 and 2007 respectively. These arrangements provided for a non-reciprocal duty-free and quota-free market access for ACP goods into the EU. As part of the text of the Cotonou Agreement², there was an envisaged transition to a reciprocal Economic Partnership Agreements (EPAs) from a system of non-reciprocal trade preferences by the ending of 2007. In view of this, ACP countries that sign on to the EPAs are expected to have an FTA with the EU which involves granting duty-free market access for almost all products from the EU within a timeframe of fifteen years (2014 to 2029).

However, negotiations which commenced in 2002 dragged on for a number of years before they were concluded in 2014³. These protracted negotiations emanated from challenges and failure on the part of both parties to agree on the texts of the agreements. Notwithstanding

¹ Total trade between the EU and ACP countries amounted to 176,517 million Euros with a trade balance of 5,366 million Euros in favour of ACP countries in 2014.

² The Cotonou Agreement was concluded in June 2000

³ So strong and sometimes speculative were the arguments in support of and against the EPA that the Overseas Development Institute (ODI) in 2006, declared: "at present, neither supporters nor opponents of EPAs can demonstrate convincingly that the other is wrong"

the advantages of any free trade agreement, there are net gainers and losers particularly agreements between countries of different levels of development as highlighted by Dijkstra (1997). Consequently, Ghana is expected to sign onto the EPAs with a commitment to establishing an FTA with the EU which guarantees a reciprocal market access of up to 85% of all EU products to Ghana. In view of the plausible repercussions of these agreements on the economy of Ghana, this study seeks to analyze the trade creation and trade diversion effects of an FTA between the EU and Ghana.

1.2 STATEMENT OF THE PROBLEM

Critiques of the EPA between Ghana and the EU are skeptical as to Ghana's ability to derive maximum benefits from the agreements. They cite Ghana's uncompetitive business environment as a huge impediment to harnessing these reciprocity agreements⁴. In similar fashion, a study conducted by the United Nations Economic Commission for Africa (UNECA) in 2005 arrived at a critical finding that majority of Sub-Sahara and African industries stand to experience a decline in output levels under full implementation of the reciprocity principle of the EPAs. This declined production will be more severe in sectors that are considered the foundations for industrialization, i.e. low and semi-high tech industries.

Krueger (1999) in assessing the North American Free Trade Agreement (NAFTA) to determine changes in shares of trade before and after its implementation, establishes that Mexico's exports to other NAFTA members had increased as against a reduction in imports from

⁴ See the article "Africans fear 'ruin' in Europe trade talks" By: Gumisai Mutum at <http://www.un.org/aficarenewal/magazine>

East Asian countries. Yeats (1998) in analyzing several Mercosur trade data from the period 1988 to 1994 revealed that Mercosur's growth in trade depicted trade diversion. Yeats therefore concludes that products that witness the most expansion in regional trade shares were not necessarily competitive in internationally.

Urata and Okabe (2014) analyzed the impacts of RTAs on commodity trade flows, with a particular focus on their trade creation and diversion effects, and found that the impacts of Regional Trade Agreements on trade flows vary according to commodities and nature of RTAs. In analyzing trade data on seven multilateral Regional Trade Agreements⁵, Urata and Okabe found that free trade agreements produce trade creation and trade diversion effects in numerous commodities, whereas customs unions create trade creation and diversion in fewer commodities.

A critical finding from the study was the observation that RTAs among advanced nations produce trade creation effect in almost all commodities with the exception of organic chemicals and wood whereas trade diversion effects were not found. However, Regional Trade Agreements among developing nations produce trade creation in 12 commodities, while producing trade diversion in 16 commodities imported from advanced countries. The research therefore attributes the trade diversion causing factor to the high import tariffs on imports from non RTA member countries by developing nations.

1.3 IMPORTANCE OF STUDY

The importance of this research is to ascertain whether trade creation and trade diversion emanating from a free trade agreement enhances welfare effects. In view of this, this study seeks to estimate the welfare effects arising from an FTA between Ghana and the EU.

⁵ These RTAs are the European Union (EU), Common Market for Eastern and Southern Africa (COMESA), Pan-Arab FTA, North American FTA (NAFTA), ASEAN FTA (AFTA), Mercado Comun del Sur (MERCOSUR), Andean Sub-regional Integration Agreement (CAN) and Pan-Arab FTA

1.4 PURPOSE OF THE PROPOSED STUDY / OBJECTIVES

The objectives of the study are:

1. Review relevant cases of bilateral and multilateral economic treaties between developed and developing countries particularly those involving the EU and African countries.
2. Ascertain the trade creation and trade diversionary effects which will arise as a result of the signing and ratification of the EPAs between Ghana and the EU.
3. Examine the extent to which geographical location, proximity and inflation impact an FTA between Ghana and the EU.

1.5 RESEARCH QUESTIONS

The main research question that this study seeks to answer is what are the trade creation and trade diversionary effects which will emanate out of the signing and ratification of the ACP/EU Economic Partnership Agreements between Ghana and the EU? In addition, this study will address the following sub-research questions:

- What impact do trade liberalization agreements have on the economies of countries?
- What has been the impact of previous economic agreements between Ghana and the EU on Ghana's industrial sector?
- To what extent will location, proximity and inflation impact Ghana's FTA with the EU?

1.6 HYPOTHESIS

According to David Ricardo (1871), an economic agent has a comparative advantage over another in producing a particular good if he can produce that good at a lower relative opportunity

cost or autarky price (Krugman 1990). As a basis for international trade, countries seek to produce products at which they have comparative advantage in. This theory therefore encourages countries to open up their markets and embrace global trade. It is the aim of this paper to ascertain whether Ghana's elimination of tariffs on 85% EU exports to Ghana will either have positive or negative welfare benefits. The author therefore seeks to test the under listed hypothesis:

Hypothesis 1: There is a positive effect of economic size (of both Ghana and importing country) on bilateral trade.

Hypothesis 2: There is a negative effect of trade costs (proxy: remoteness) geographical on bilateral trade.

Hypothesis 3: There is a positive relationship between being a member of a free trade agreement (leading to trade creation).

Hypothesis 4: There is negative effect of consumer prices in the importing country on bilateral trade.

1.7 STRUCTURE OF THE PAPER

This research is therefore divided into four chapters. Chapter One introduces the theme of the research; it deals with the background of the study; problem statement; objectives and importance of the study as well as the hypothesis of the study.

Chapter Two reviews relevant and related literature on the subject matter by experts, institutions and policymakers, in addition to some scholarly works by some academic writers.

These reviews will highlight trade creation and trade diversionary effects that emanate from free trade agreements and more specifically, FTAs involving the EU and other countries.

The third chapter extensively deals with the methodology of the study. This chapter highlights the types of data and their sources and the variables used in this research. Chapter four deals with data analysis and interpretation. The last chapter discusses policy recommendations based on the findings of the research and the overall conclusion of this research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Ghana has been confronted with a number of development challenges for the better part of the last six decades since gaining its independence from Britain in 1957 and this period has been typified by political instability and unattained economic growth ambitions. From the economic perspective, the height of sustained growth required to transform the economy and improve the standard of living for majority of its citizens is yet to be realized (Auty, 2000). An assessment of the factors underneath the poor economic performance brings to the fore the need for Ghana to develop an efficient, vibrant and diversified exports sector that is capable of accelerating its development aspirations. The main challenge confronting the country is the uncompetitive nature of Ghana's industrial establishments and the country's overdependence on the export of primary products (Auty, 2000).

Historically, Ghana's largest trading associate has been Europe and the volume and value of exports to Europe has gradually grown throughout the years, though the share has progressively declined since attaining independence. This drift is also typical of all the African, Caribbean and Pacific (ACP) countries, notwithstanding the preferential market access to the European Union (EU) they enjoy through the various accords and agreements (Santos-Paulino, 2005). The preferential market access being offered by the EU is viewed as an avenue for fast-tracking development in the former colonies of the EU. In view of this, the progressive decline of ACP countries share of exports to the EU calls for urgent steps to help address the challenges confronting trade in these countries.

2.2 Theoretical Framework

A. International Trade Theory, H-O Model

As a general equilibrium model for assessing international trade, the Heckscher–Ohlin model has the David Ricardo's theory of comparative advantage as its foundation. Ricardo theory generates forecasting models for trade and production which is premised on the factor endowments of a particular region or nation (Schumacher, 2013). Principally, the H-O model states that a nation utilizes factors of production in which they are endowed in to produce export commodities while importing goods that utilize its scarce factors of production. The Heckscher–Ohlin model is made up of four major theorems:

- i. Factor Price Equalization Theorem;
- ii. Heckscher-Ohlin Trade Theorem;
- iii. Stolper-Samuelson Theorem; and
- iv. Rybczynski Theorem

The Heckscher–Ohlin model has four central theorems of which the Heckscher–Ohlin theorem is one. As a fundamental principle, the theory states a two-factor case: "Capital-abundant countries produce and export capital intensive goods, while labor-abundant countries export labor-intensive goods." The Heckscher–Ohlin model is premised on the fundamental assumption that the two individual nations are identical with the exception of differences in resource endowments (Findlay et al., 2006).

Theoretical Underpinning the H-O Model

The Ricardian model of comparative advantage, postulates that international trade is

invariably motivated by variations in labor productivity using diverse technologies. Findlay et al., (2006) note that the H-O model universally has identical production technology and this is because Heckscher and Ohlin did not need production technology to differ between nations. Consequently, David Ricardo assessed a single production factor (labor) and this influenced his ability to produce a comparative advantage model which is devoid of technological differentiation among nations. Technological differences are detached by the Heckscher–Ohlin model as it introduces variable capital endowments.

Assumptions of the theory

Robinson and Thierfelder (1996) note that the Heckscher-Ohlin's theory explains the modern approach to international trade on the basis of following assumptions:-

- i. Two countries are involved in the equation.
- ii. Labour and capital are the two main factors of production of each country.
- iii. Labour intensive and capital intensive commodities are produced by each country.
- iv. Commodity and factor markets experience perfect competition.
- v. There is homogeneity of all production functions of the first degree.
- vi. Two countries differ in the supply of factors of production.
- vii. There are variations in factor intensity of each commodity.
- viii. There is the existence of free trade i.e. no trade inhibiting measures

B. Trade Liberalization (Studies on Impacts on Economies)

Most economic literature on trade liberalization assert that trade liberalization leads to an improvement in welfare derived from efficient allocation of domestic productive resources.

Import restrictions of any form unduly generate an anti-export bias by substantially increasing the prices of imported goods relative to exported commodities. Trade liberalization therefore encourages the production of export oriented commodities over import substitutes. Consequently, growth is generated within the short to medium in tandem with its comparative advantage (McCulloch et al, 2001).

i. World Overview

Trade liberalization positively impacts private investments and economic efficiency as such, developing countries are being encouraged to pursue pro-trade open policies. Higher economic growth thereby aids in fight against endemic poverty through decreased unemployment and increased income levels of poor people. Krugman (1990) in presenting a paper on trade and poverty reduction, highlighted the need for developing countries to open up their markets to trade and he summarized his reason as:

Firstly, production processes and patterns in developing countries are heavily biased towards labor intensive agriculture, manufacturing, and service. Economies of these developing countries are characterized by people having low income levels and limited market sizes. Trade liberalization enables small scale manufacturers to increase their production levels far and above domestic demand. Secondly, industrialization enabled by protectionist policies sometimes result in production costs which are overly high; liberalized trade therefore enables expanded production capacities and a reduction in unit prices of commodities produced and finally; import substitution regimes create the conducive environment for systemic inefficiencies arising from bureaucratic discretions in determining industries to be encouraged.

Dollar (1992), Wacziarg (1998), Frankel and Romer (1999), Dollar and Kaaray (2001) provide extensive literature on the correlation between liberalization and growth. However, Rodrik, (1996), Rodriguez and Rodrik (1999) basing their convictions on methodology, raise questions as to the extent of correlation between trade openness and growth and calls for a thorough study linking trade protection to growth. A recent prominent study by Kraay and David Dollar (2001) note that one third of the world's developing countries which were known as "rapid globalizers", tremendously addressed the challenges of income growth and poverty reduction over the last twenty and more years. These "rapid globalizers" have experienced high trade volumes emanating from the elimination of tariff and non-tariff barriers and these countries include India and Bangladesh.

Thus, Wacziarg (1998) using panel data from 57 countries from 1979-1989 investigates the correlation between trade liberalization and growth and the results depicts trade liberalization having an impact on economic growth. Similar view is shared by Frankel and Romer (1999) who in regressing cross-country data postulate that income is positively boosted by openness. Dollar (1992) further establishes a direct relationship between a country's outward looking policies and its per capita GDP growth.

ii. Sub-Saharan Africa

Most African economies before the 2000s implemented certain policies that were aimed at protecting their individual markets/economies. These policies were mostly trade inhibiting measures and they included high tariffs, exchange controls and quantitative restrictions. However, most African economies have rolled out policies that are seeking to remove all these trade inhibiting measures. Most of these countries have eliminated or reduced tariff. Ghana and

Uganda are among the foremost countries to implement trade liberalization policies which included significant devaluation of their local currencies and a conscious effort to harmonize official and parallel markets. In same vein, Zambia, although a late reformer, has undertaken similar initiatives to liberalize its trade regime and this includes the liberalization of its exchange markets by allowing private participation and also significantly lowering its tariffs.

Similarly, most African countries have taken steps to liberalize their trading regimes through the abolition of quantitative restrictions on imports, and the introduction of rationalized licensing systems. Dollar (1992) observes that countries that implement trade opening reforms have a higher chance of economic recovery particularly through an improved export performance arising from an increase in the export of non-traditional commodities. In line with this, Ghana and Uganda experienced economic recovery on the backdrop of an improved performance of exports. Ghana has seen its exports to GDP rise significantly and this could be compared to its figures of the 1970s.

Zambia also has seen significant improvements in its exports after liberalizing its trade regime. Exports of non-traditional commodities have significantly contributed to its GDP with an export to GDP ratio of 40% and this is up from a figure of 10 percent in the 1980s.

However, trade reforms in several African countries at their early stages of economic growth, led to the collapse of several industries particularly infant ones which received protection from imports. Zambia for example saw a collapse of its light industries due to stiff competition from imports. Nonetheless, trade openness gave birth to a new sector of exporters who used imports as factors of production and this led to some existing industries witnessing improved production capacities.

C. Theory of Trade Creation and Trade Diversion

Trade creation is a phenomenon where a reduction in tariff lines allows trading partner countries obtain welfare benefits through the swapping of costly domestic production with imported commodities. On the other hand, trade diversion is the phenomenon where a reduction or tariff elimination results in the diversion of trade from a third country to an FTA partner country although that the third country possesses a competitive and/or comparative edge in the production of these commodities. Morrison (2011) therefore postulates that the degree of trade creation vis-a-vis trade diversion determines the magnitude of the welfare benefits as per the Vinerian framework.

Modern economic assessment of regional trading blocs is ascribed to Jacob Viner (1950), who postulates that welfare effects emanating from free trade agreements (FTAs) is positively dependent on the extent of trade creation and trade diversion. In same vein, a partial equilibrium model was proposed by Johnson (1960) who elucidates the linkages between trade creation and trade diversionary effects of an FTA and a country's economic growth and highlights several of these welfare effects in trade diverted markets and concludes that these countries may be better or worse off. Kimberly A. Clausing (2001) critically examined the Canada-United States Free Trade Agreement and found changes in trade patterns. Evidence from the assessment showed that the FTA had some considerable trade creation effects but with little evidence of trade diversionary effects.

Preliminary Gravity model specifications were provided by Tinbergen (1962) who used it to assess factors affecting trade flows. In same vein, Aitken (1973) was also one of the early brains in the application of the gravity model in the analysis of FTAs. Existing studies in the welfare benefits of FTAs could be divided two distinct ways. First are studies examining trade

flows after the implementation of an FTA (ex-post). The other studies examine trade flows prior to the existence of an FTA (ex-ante). These two methods (ex-ante and ex-post) are however being subjected to criticisms. Wonnacott and Lutz (1989) and Krugman (1991) opine a “natural trading partner” premise that sees bilateral trading nations forming regional trade agreements and these agreements having trade creation effects. Magee (2003) in establishing the positive correlation between the formation of FTAs and higher mutual trade, utilizes simultaneous equations model to arrive at this conclusion.

In using the gravity model to calculate the welfare emanating from an FTA, a critical factor effecting the results of this assessment are the countries chosen in the equation. In view of this, Haveman and Hummels (1998) postulate that the estimates of FTA effects will considerably vary if a country’s sample results is changed with a different forecast of trade albeit in the nonexistence of an FTA. Pomfret (1997) also concludes that there are some inadequacies with the gravity model when used in measuring trade effects of FTAs citing a number of incredible studies. Ghosh and Yamarik (2004) also state that results of gravity model regressions are sometimes skewed to the prior beliefs of the researcher particularly due to the variables included in the regressions. They therefore find a considerable decrease in trade creating RTAs when the prior viewpoints of a researcher are incorporated into the equation.

2.3 Background to the Economic Partnership Agreement

The strategic relationship between the European Union and ACP countries has its origins in the colonial and post-World War II periods. However this relationship was formalized in 1963, with the signing of the Yaounde Convention. This agreement was between the European Economic Commission (EEC) and African countries which had just had their independence and

this set the tone for further cooperation between the EEC and ACP countries. Amongst other things this convention sought to accelerate economic development in these newly independent nations.

In 1973, ACP countries reopened negotiations on the Yaounde agreements with the EU, this time, jointly as a bloc. As a result, ACP countries won major concessions due to their strong bargaining power and these concessions included the enjoyment of certain preferences which were non-reciprocal and some compensation packages to help offset shocks from the 1973 commodity price fluctuations. This was necessitated by the fluctuations in commodity prices following the oil crisis in 1973 when OPEC restricted global oil output.

The Lome I Convention was signed in 1975 as a successor to the two Yaounde Conventions (1963-1969, 1969-1975) and fundamentally differed from its predecessors in that, the Lome Conventions I to IV, were non-reciprocal and discriminatory in nature which inured to the benefits of ACP countries whilst the two Yaounde Conventions emphasized reciprocity and non-discrimination. The Yaounde Conventions also sought to create regional partnerships and aimed at creating an FTA between Africa and the EU.

In subsequent years after the signing of Lome I, the collective bargaining power of the ACP bloc dwindled as a result of shifts in geo-political alignments and slumps in the global economy. Concessions that had been granted in the Lome I were revised leading up to the Cotonou Agreement which elapsed 2007. However, the original terms of the Lome conventions I to III were incompatible with the General Agreement on Tariffs and Trade (GATT) and its successor World Trade Organization (WTO) in that they were non-reciprocal and discriminatory. In view of this, a waiver from the WTO had to be obtained before the Lome IV convention could come into force in 1995.

Cotonou Agreement Compatibility Issues with the WTO

As stated earlier the Lome Conventions I to IV and Cotonou Agreements were discriminatory against third party countries and guaranteed preferential trade terms to ACP Countries. The Cotonou Accord of 2000 had to utilize the waiver which was first sought for Lome IV. The Cotonou Agreement was seen as a stepping stone to kick start the process of harmonizing the Lome Accord with WTO provisions.

The Lome Accords, and the Cotonou Agreement, were therefore in contravention of Article XXVI of GATT and had to enjoy certain privileges under the Enabling Clause⁶, “which permits more favorable trade conditions to be enjoyed by a group of nations defined by economic or development criteria only” In like manner, the favourable treatment provided by EU to ACP countries through preferential guarantees as pertaining to the Lome and Cotonou Agreements were also in contravention of the WTO principle of ‘Most Favoured Nation (MFN) Treatment’⁷. The MFN (Article I of 1947 GATT) specifies that “*customs duties and charges of any kind imposed... by any contracting party to any products originating in ... any country shall be accorded immediately and unconditionally to the like product originating in the territories of all the contracting parties*”.

There was therefore the necessity to replace the Cotonou Agreement with an agreement which was compatible with the WTO agreement. As such, the EU proposed the EPAs as being in consonance with the WTO rules. However, in its original form, the EPAs were subjected to strong criticisms and this was as a result of the inclusion of non-trade issues in the texts of the agreement such as investments and services and this led to protracted negotiation.

⁶ officially called “Decision on Differential and More Favourable Treatment, Reciprocity and Fuller Participation of Developing Countries

⁷ The MFN principle is one of the fundamental principles of the multilateral trading system

Heterogeneity of Interests among African countries

In view of the eminent termination of the Cotonou Agreement in 2007 concerns began to be raised as to the probable impact of the non existence of a favorable trade agreement on trade between African countries and the EU. Africa has as much as 33 LDCs and these countries would have still enjoyed a quota-free duty-free market access to the EU market upon termination of the Cotonou Agreement under the Everything But Arms (EBA) program⁸. The Economic Community of West African States (ECOWAS) bloc has 15 members of which 12 are LDCs with the exception of Ghana, Nigeria and Cote d'Ivoire. Nigeria not signing and ratifying the EPAs after the expiration of the Cotonou Agreement didn't stand to witness any shocks to its exports to the EU due to crude oil accounting for more than 80% of its exports and the export of crude attracts no tariffs or quantity restrictions even if it reverts to the GSP. Cote d'Ivoire, stood to enjoy some leeway by virtue of being a member of the West African Economic and Monetary Union (UEMOA),⁹ as such it could still export to the EU under favourable terms should ECOWAs fail to conclude on the negotiations of the EPAs as a bloc.

Ghana was in a precarious position as the only ECOWAS country not having any viable alternative. With an economic growth strategy based on export expansion and a budding non-traditional export sector, the country could have seen a drastic decline in revenue from the exports of its NTEs if it had failed to enter into an initial EPA (IEPA) with the EU considering the fact that EU is its largest trading partner and Ghana would have reverted to the GSP which attracts tariffs on exports to the EU¹⁰.

⁸ The LDCs export to the EU under the Everything But Arms (EBA) program

⁹ UEMOA is made up of Francophone countries in West Africa, which use the CFA as common currency.

¹⁰ The GSP which is significantly less favourable than both the Cotonou Agreement and the proposed EPA applies to all 'developing countries' including Ghana.

2.4. Ghana-EU Trade

2.4.1 Interim-Economic Partnership Agreement (IEPA)

Ghana initiated an Interim-Economic Partnership Agreement with the EU in December 2007 upon expiration of the then current framework (Cotonou Agreement) as intimated above. The Interim Economic Partnership Agreement (IEPA) was different from that which was initially proposed to replace the Cotonou Agreement. The differences arose as a result to the challenges put across at the WTO by other non party developing country members who sort to challenge the preferences contained in the original EPA. Their case was that these preferences were extended to ACP countries by the EU due to the fact that they were based on historical antecedents and as such were inconsistent with WTO provisions¹¹. WTO provisions stipulate that preferences could be extended to partner countries based on economic indicators and as such all countries meeting those economic indicators should be extended those privileges.

Originally, the texts of the EPA included both trade and non-trade issue such as trade in services but these were rejected by ACP countries. As such, the contentious issues were eliminated from the IEPA. Faced with the potential of losing its EU market, Ghana negotiated a goods only agreement with EU towards sustaining it market access to the EU market. This goods only market access agreement was seen as a stop-gap measure until the final EPA was signed.

This Interim-EPA witnessed stiff opposition from civil society organizations in Ghana who feared that this could result in the elimination of tariffs on imports from the EU thereby creating a stiff competition for local industries, with a resultant elimination of industries that can't cope with the competition. The IEPA took into consideration the concerns of these CSOs

¹¹ Similarly, the Africa Growth Opportunities Act (AGOA), which is based on favourable terms granted by the USA to African countries, has also been challenged.

by placing locally produced goods in an exclusion list which was immune to the trade agreement. The exclusion list was made up of all agric products and locally manufactured products which were identified by Ghana's Ministry of Trade and Industry.

Ghana is expected to sign and ratify the final EPA after the texts of the agreement were agreed upon by all heads of states of ECOWAS countries in October 2014. As was the case of the Interim-EPA, the final EPA has an exclusion list which is made up of about 20 percent of Ghana's exports to the EU market. It is expected that in return Ghana will eliminate tariffs on 85% of all imports from the EU over a timeframe of 15 years with the first 5 years seeing no elimination of tariffs at all. The EU will in turn grant a quota-free duty-free market access to all Ghana's export except sugar and rice.

CHAPTER THREE

METHODOLOGY AND MODEL SPECIFICATIONS

3.1 Introduction

This chapter discusses the study's model specification and estimation, as well as the measurement of the variables. Thereafter, the chapter describes the data and its sources. This is followed by a discussion of not only the time series properties and problems of the variables but also how they are dealt with. The last part of the chapter highlights the diagnostic tests conducted.

3.2 Econometric Specifications

3.2.1 Gravity Model for International Trade

Gravity models have obtained prominence in the assessment of bilateral trade due to their expediency and utmost flexibility. Isaac Newton's law of gravity serves as the foundation of gravity models. The Newton law "states that two celestial bodies are subjected to a force of attraction that is directly proportional to their mass and indirectly proportional to their distance". The models therefore stipulate that the volume and value of trade between two different countries is explained by their geographical distance and economic size.

The basic expression is currently formulated as: the trade flow from country i to country j (X_{ij}) is proportional to the product of the two countries' GDPs (Y_i , Y_j) and inversely proportional to their distance, D_{ij} , broadly construed to include all factors that might create trade resistance.

$$X_{ij} = \alpha_0 Y_i^{\alpha_1} Y_j^{\alpha_2} D_{ij}^{\alpha_3} \varepsilon_{ij} \dots\dots\dots \text{Eqn. 1}$$

- α_0 : Variable/Coefficient not depending on “i” or “j”
- X_{ij} : Exports from “i” to “j” (or imports of “j” from “i”)
- Y_i : Exporter factors (GDP_i, for example,...)
- Y_j : Importer factors (GDP_j, for example,..)
- D_{ij} : distance/trade barriers of exporter “i” to enter / reach market “j”
- ε_{ij} : random term (not analogue to Physics determinism)

3.2.2 Ghana’s Tariff Reduction and its Effects on Bilateral Trade with EU

In estimating Ghana’s tariff reduction and the effect it will have on its bilateral trade with the EU, this research employs a gravity equation that utilizes the log-linear function. The econometric model is therefore estimated as:

Econometric model for research

$$\ln X_{ij} = a_0 + a_1 \ln Y_i + a_2 \ln Y_j + a_3 REM_{ij} + \alpha_4 CPI_j + \beta fta + \varepsilon_{ij} \dots\dots\dots \text{Eqn. 2}$$

Where:

- X_{ij} is exports from Ghana to EU country, j
- $Y_i + Y_j$ GDPs of Ghana and EU country, j
- $REM_i = \sum_j \frac{d_{ij}}{Y_j/Y}$ Remotness (Anderson and van Wincoop’s, 2003)
- CPI_j Consumer price Index in European Country
- Fta dummy for being a part of trade agreement

Analysis: Panel data analysis for Eqn 2.

3.3 Measurement of the Variables

3.3.1 Exports

The export variable is interpreted as representing external demand for Ghana's goods and service as well as third party countries' and this is based on the Armington-assumption. Demand for Ghana's exports is an equation involving a measure of foreign income, Ghana's export prices, relative to prices of competitors.

3.3.2 Gross Domestic Product

Trade protection according to reviewed literature has an inverse relationship with GDP growth. According to Dollar (1991) trade protectionist policies reduce the gross domestic product of any country while suggesting that trade liberalization boosts a country's GDP. Thus trade liberalization increases a country's GDP constant which then impacts positively on its exports due to increased production capacities and the enjoyment of economies of scales *ceteris paribus*

3.3.3 Consumer Price Index

Consumer Price Index as a variable for inflation takes into consideration parameters such as monetary aggregates, the exchange rate and the implicit cost of holding idle cash balances. As a variable in the equation, inflation serves as a tax on money and on monetary transactions. Inflation has the propensity to reduce the value of domestic production. This could result in an altered pattern of trade flows and the comparative and competitive advantages of countries. Also, higher inflationary rates could result in the reduction in the purchasing power of consumers in importing countries thereby reducing trade flows between importing and exporting countries, particularly where price sensitive commodities are being traded.

3.3.4 Free Trade Agreement

In an equation, when trading partners are in the same FTA, the “FTA” dummy is given the value of unity.

3.4 Methods

Transformation of multiplicative model has been the widespread practice in empirical applications and this involves taking natural logarithms and making use of Ordinary Least Squares (OLS) to ascertain the obtained log-linear model. In as much as it is widely used, it has some econometric challenges arising from heteroskedastic residuals and the occurrence of zero values in trade flows (Martínez-Zarzoso, 2007).

A Hausman test was run to ascertain whether fixed or random effects be used. The Hausman test primarily tests if the unique errors (u_i) are correlated with the regressors and the null hypothesis (Green, 2008,). Both fixed effects and random effects did not give significant results due to the presence of heteroscedasticity, hence the choice of Feasible Generalized least Squares. As a result of the inadequacies of the Ordinary Least Square model, the FGLS is used to regress a dependent variable on independent variables. Wooldridge (2002) notes that the Feasible Generalized Least Squares is more appropriate for panel data.

3.5 Summary Statistics

Table 1: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Exports _{ij}	374	6.84e+07	1.88e+08	102	1.72e+09
Cpi	374	89.50418	24.4176	1.167653	138.0053

Gdpjcurrent	373	8.42e+11	1.38e+12	5.12e+09	9.49e+12
Gdpi	374	2.63e+10	1.31e+10	7.63e+09	4.86e+10
Fta	374	.7058824	.4562555	0	1
GDPj	373	842381.5	1383811	5119.622	9490603

3.6 The Data and Data Sources

We built a panel data including Ghana and 25 EU countries and 11 Asian countries inclusive of Australia from 2003 to 2013. The data of Ghana's bilateral trade (equal to the total value of Ghana's exports and imports) are annual data, obtained at dollar values from the General Statistics Office and Trademap database. The Gross Domestic Product (GDP) of both Ghana and its trading partners are collected from the World Bank database. The imports duties data is MFN rate of Ghana and EU countries, taken from the website of the World Bank. The bilateral exchange rates between the VN and European countries are calculated based on data of the exchange rate between Ghana(and its partners) and the U.S. dollar , obtained from the World Bank database. Geographical distances are obtained online from the chemical-ecology.net.

CHAPTER FOUR

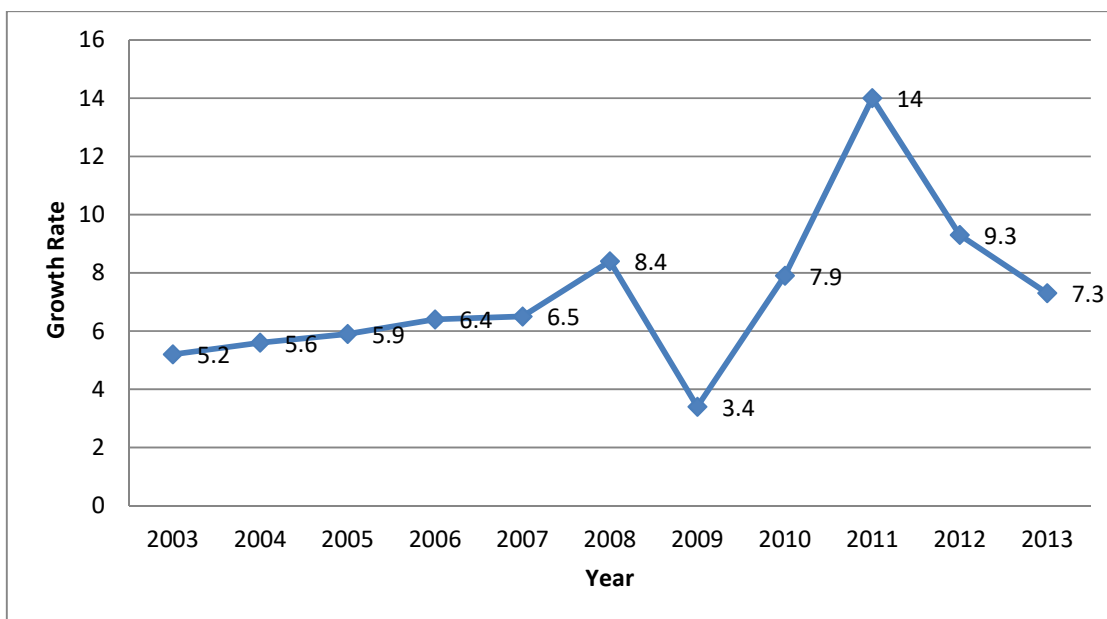
EMPIRICAL FINDINGS

4.1 Introduction

This chapter presents the analysis of the empirical results of the regression models estimated in chapter three and their economic and statistical interpretations.

4.2 Ghana' GDP and Export Performance

Figure 1: Annual Growth Rates of Ghana



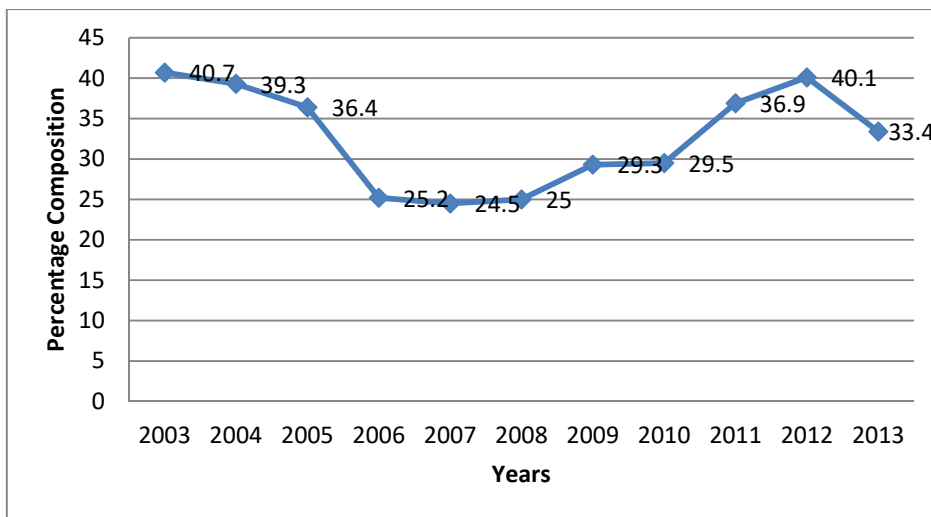
Source: World Bank, 2015

Ghana's economy has witnessed constant growth rate averaging 7% over the period under study (2003-2013). This was as a result of sound macro-prudential policies, particularly the period before 2009. However, the growth rate dipped to an average of 3.4% in 2009 as a

result of change in political and administration power but peaked to an all time high of 14% as a result of the exportation of crude oil in commercial quantities.

Subsequently, GDP growth rates declined as a result of a sharp fall in world crude prices and a fall in local crude oil production levels. Against this background, an FTA with the EU will guarantee Ghana revenue from exports of non-traditional commodities such as horticulture.

Figure 2: Contribution of Exports to Ghana’s GDP



Source: World Bank, 2015

The composition of exports to total GDP of Ghana has been fluctuating over the period under observation (2003 to 2013). From a high of 40.7% in 2003 to a low of 24.5% in 2007 reveals some challenges with Ghana’s total exports and its contribution to GDP as a whole. Ghana’s exports in recent times have faced both supply and demand side challenges which need to be addressed in other for the country to boost its revenue from exports.

4.3 Results

a. Unit Root Test (Levin-Lin-Chu (2002 Test))

The Levin-Lin-Chu Tests has as its null hypothesis that all the panels contain a unit root. The first difference of the natural log of GDP_j was taken to make it stationary (see table below).

Table 2: Results of Unit Root Tests.

Variable	t-stat	Probability	Remark
Exp	-30.4417	0.000	Stationary
Cp	-16.5605	0.000	Stationary
GDP _j	-13.0158	0.000	Stationary
GDP _i	-20.5414	0.000	Stationary
Remote	-11.5655	0.000	Stationary
InEXP	-20.2353	0.000	Stationary
InCP	-14.7536	0.000	Stationary
InGDP _j	-11.1583	0.000	Stationary
InGDP _i	-14.2139	0.000	Stationary
InRemot	-12.7016	0.000	Stationary

b. Breusch-Pagan Lagrange multiplier (LM)

The LM test helped decide between a random effects regression and a simple OLS regression. The null hypothesis in the LM test is that variances across entities is zero. This is, no significant difference across units (i.e. no panel effect). The results showed that there is a significant difference across countries. Therefore a simple OLS was not used.

Table 3: Breusch and Pagan Lagrangian Multiplier Test

$$\ln Ex[id,t] = Xb + u[id] + e[id,t]$$

Estimated results:

	Var	sd = sqrt(Var)
lnEx	9.100543	3.016711
e	1.202756	1.096702
u	4.766112	2.183143

Test: Var(u) = 0

$\underline{\text{chibar2}}(01) = 1067.75$
 Prob > $\text{chibar2} = 0.0000$

c. Hausman Test

A Hausman test is used to make a decision between fixed or random effects particularly where the null hypothesis is that the preferred model is random effects vs. the alternative the fixed effects (Green, 2008). Use random if Prob>chi² less than 0.05.

Table 4: Hausman Test

	Coefficients			sqrt(diag(V_b-V_B)) S.E.
	(b) .	(B) random_eff~s	(b-B) Difference	
lnGDPj	.7358792	1.154915	-.4190356	.7914185
lnGDPPi	-.0694276	.0991384	-.168566	.2432029
lnRemot	.0243624	-.0256393	.0500017	.7633086
lnCPi	2.322769	.1753908	2.147378	.6171106

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$\text{chi2}(4) = (b-B)'[(V_b-V_B)^{-1}](b-B)$
 = 14.12
 Prob>chi2 = 0.0069
 (V_b-V_B is not positive definite)

d. Correlations

The results gave positive correlation coefficients for: Exports and GDPj, Exports and GDPi respectively but gave negative coefficients for Exports and CPI and EXPORTS and Remoteness.

Table 5: Correlations

```
. correlate lnEx lnGDPj lnGDPPi lnRemot lnCPI
(obs=373)
```

	lnEx	lnGDPj	lnGDPPi	lnRemot	lnCPI
lnEx	1.0000				
lnGDPj	0.6185	1.0000			
lnGDPPi	0.1116	0.1396	1.0000		
lnRemot	-0.6002	-0.9460	-0.0040	1.0000	
lnCPI	-0.1211	0.0783	0.0993	-0.0175	1.0000

4.4 Regression Results

Table 6: FGLS Regression Results

```
Coefficients: generalized least squares
Panels:      homoskedastic
Correlation: no autocorrelation
```

```
Estimated covariances      =          1      Number of obs      =          373
Estimated autocorrelations =          0      Number of groups   =          34
Estimated coefficients      =          6      Obs per group: min =          10
                                                avg = 10.97059
                                                max =          11
                                                Wald chi2(5)      =          278.70
Log likelihood              = -836.5495     Prob > chi2       =          0.0000
```

lnEx	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
lnGDPj	-1.140778	.7632435	-1.49	0.135	-2.636708 .3551512
lnGDPPi	1.011807	.3280436	3.08	0.002	.3688536 1.654761
fta	-2.305374	.786233	-2.93	0.003	-3.846363 -.7643859
lnRemot	-2.322987	.7568453	-3.07	0.002	-3.806376 -.8395973
lnCPI	-.5431018	.1293184	-4.20	0.000	-.7965611 -.2896424
_cons	42.30583	18.16529	2.33	0.020	6.702511 77.90916

$$\ln X_{ij} = a_0 + a_1 \ln Y_i + a_2 \ln Y_j + a_3 REM_{ij} + \alpha_4 CPI_j + \beta fta + \varepsilon_{ij}$$

The coefficient of all variables except $\ln GDP_j$ (Ghana's GDP) are significant. If $\ln GDP_{Pi}$ (GDP of importing country i) increases by 1%, Ghana's exports are expected to increase by 1.01%. The other variables $\ln Remot$, fta and $\ln CPI_j$ are negatively related to Ghana's exports. Distance plays a critical role in global trade and as noted by Robinson et al (2006), there is a high probability of countries forming FTAs due to geographical location. As such, an increase of 1% in distance ($\ln Remot$) decreases Ghana's exports to the EU by 2.3%. As an example, the distance between Ghana and UK is 5,111.4km whereas the distance between China and UK is 7,775km. However, due to logistics and infrastructure challenges, goods from Ghana take longer to reach the EU market compared to its counterparts in Asia particularly China. Although Ghana will benefit from having an ETA with the EU, Ghana may not benefit from the diversion of trade from Asian countries. This calls for policy makers to devise trade facilitation measures to help deal with challenges with respect to the delivery of goods and services from Ghana to the EU.

An increase in inflation ($\ln CPI_j$) of 1% in importing countries results in a decrease of 0.5% in Ghana's total exports. However, after the great recession of 2009, EU countries have been experiencing stable inflation rates or negative inflation rates. It is therefore safe to assume that Ghana will enjoy trade creation as a result of low inflationary levels in the EU, *ceteris paribus*. That notwithstanding, supply side challenges that ultimately affects the pricing of Ghana's exports will need to be resolved to enable its exports be competitive with respect to price. This is due to the fact that Asian countries export goods to the EU at very competitive prices even in the face of high tariffs.

Interestingly, as intimated by Tinbergen (1962), the volume and value of trade between two countries is explained by their economic size and geographical distance and as a valid assumption, with all other factors constant (*ceteris paribus*), the bilateral trade agreement reduces exports by 2.305% at significant level of 5%. The elimination of tariff on 85% of all EU exports to Ghana could result in a worsened trade deficit as a result of over importation. This has serious repercussions on the country's infant industries and their ability to expand and enjoy economies of scale. This is further worsened by a short fall in government revenue due to the elimination of tariffs on goods from the EU.

CHAPTER FIVE

CONCLUSION

5.1 Summary of the Study

The overall objective of this study was to establish trade creation and trade diversion effects that can arise out of the signing of an Economic Partnership Agreement between Ghana and the EU. The research found a relationship between distance and export performance as well as between CPI of importing countries and Ghana's export level. However, there isn't a strong relationship between Ghana's GDP and its export performance.

5.2 Policy Recommendations

From the above summary of results, it is noted that distance has a positive correlation with trade, as such the longer the distance, the higher the cost of exports all things being equal. Therefore, my general recommendation is that policy makers should implement policies that are aimed at addressing issues related to distance with respect to Ghana's exports to the European Union. This includes the implementation of trade facilitation measures that cut down the costs and time of doing business. This is particularly important to enable Ghana benefit from welfare effects as a result of trade creation emanating from its FTA with the EU.

5.2.1 Implementation of a National Export Strategy

There is a high correlation between countries having an FTA and the enjoyment of welfare benefits. As highlighted by the analysis, Ghana stands to gain immensely from trade creation in the export of agricultural commodities and this is as a result of these commodities not

attracting tariffs. This makes Ghana's agricultural commodities cheaper as compared with third partner countries. There is therefore an incentive for the country to increase the export of these commodities to enable it earn more export revenue.

To harness welfare benefits from an FTA between Ghana and the EU, there is the need for Ghana to implement a National Export Strategy. This Strategy will have two focus areas: (1) identification and selection of export commodities/sectors that have potential for growth and development. These commodities should have forward and backward linkages with other commodities/industries. These four commodities or sectors are vegetable oils, fresh horticultural products, shea butter and salt in which Ghana has a comparative advantage. (2) Identification of key cross-cutting constraints impacting negatively on the non-traditional export sector of Ghana. These constraints include limited access to capital and inadequate basic infrastructure.

5.2.2 Improving Business Climate

From the analysis it was evident that an FTA has a positive impact on a country's exports and this is aided by trade diversion which emanates from countries not being part of that particular FTA. In as much as there is the benefit of having trade diverted from a third country to Ghana, it will not make much of a difference if the business environment in Ghana is uncompetitive. This adds to the cost of doing business and ultimately make Ghana's exports expensive and uncompetitive.

The Government of Ghana will therefore need to implement policies that are aimed at creation a conducive and competitive environment for private businesses to operate. These policies include taking measure to reduce the budget deficit from its current level of 43%. There is also the need to reduce public debt and government's reliance on short term securities.

5.3 Suggested Areas for Further Study

Due to data limitations, the study suffers some limitations which may be supplemented by further studies. There is the need for more studies on more specific sectors and export commodities that Ghana can harness in order to fully derive welfare benefits from its FTA with the EU. These studies should highlight the magnitude of government's intervention needed to drive the realization of these welfare benefits.

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