

Trade Policy Reform, Regional Integration and Export Performance in the ECOWAS Sub-Region

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Abstract

This study examined the impact of trade policy reform and regional integration on export performance in the ECOWAS sub-region adopting the gravity model. Based on results from a gravity model analysis, the result revealed that participation in preferential trade agreements within the ECOWAS sub-region is beneficial and trade-facilitating. In addition, the existence of artificial barriers to trade among ECOWAS countries negatively affects export performance. The study therefore concluded that unilateral trade barrier reductions and participation in preferential trade agreements can enhance export performance within the ECOWAS sub-region.

Keywords: Trade policy reform, regional integration, export performance, panel data, ECOWAS

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I. Introduction

The focus of most Sub-Sahara African (SSA) countries was on import substitution industrialization (ISI) with the objective of producing goods previously imported from developed countries locally and also as a way of achieving rapid economic growth while diversifying productive structures. Macroeconomic performance of many SSA countries during this period can not be said to be encouraging compared to the East and South-East Asian countries which prompted the IMF and the World Bank to suggest outward-oriented development strategies to SSA countries as part of their structural adjustment and reform programmes (Onafowora and Owoye, 1998). The adoption of those strategies will enable SSA countries to attain higher economic growth propelled by a dynamic and more robust external sector.

As a result, countries within the Economic Community of West African States (ECOWAS) sub-region also adopted the structural adjustment programme (SAP) aimed at liberalizing their economy including the external sector. These new development options which marked SSA total departure from the import substitution strategies, sought to redirect growth strategies towards the external market. Among the countries in the ECOWAS sub-region that adopted this strategy in the early period include Gambia, Ghana, Guinea and Mali. Consequently, foreign trade was liberalized through the reduction of tariffs and non-tariffs barriers as well as the reduction of import duties applied to imports in the ECOWAS sub-region. Currencies were also devalued to encourage exporters with the aim of boosting exports and growth and fostering the integration of the countries into the global economy. If coupled with fiscal and monetary discipline, appropriate financial sector reforms and the decontrol of domestic prices, such measures are expected to raise international competitiveness. In the same dimension, regional integration schemes within the SSA level was established as a result of the small size of the typical African economy and the perceived disadvantages associated with

smallness (Oyejide, 2004). The basic objective of such integration scheme is to significantly increase trade within each integrated area and as well expand the areas overall trade.

However, while the general consensus is on the need to design and implement reforms, it is still not certain if the exports of the ECOWAS sub-region would be enhanced through the adoption of programmes that encourage more open economic policies. This is because despite significant trade liberalization and membership of regional trade arrangements over the past two decades, trade flows within the sub-region are distinguished by the shrinking share of the sub-region trade in the share of world trade, high dependence of exports on primary commodities and high dependence of the countries within the region on their European trade partners. Many countries within the sub-region have also not put in place the policies necessary to raise the living standard by improving export necessary to raise living standards. In addition, the share of intra-ECOWAS trade grew marginally from 3 per cent in 1975 to 6 per cent in 1991 and, despite the simultaneous decline of the region's participation in world trade, it has remained at that level ever since. (Aryeteey, 1998)

Consequently, we therefore seek to examine the impact of trade policy reform and regional integration on the performance of exports in the West African sub region. Should a closed economy commit its trade to unilateral trade policy reform or limit itself to participation in regional trade agreement? Or should a country adopt the commitment to liberalize its trade and simultaneously participate in a regional trading agreement? Using the gravity model of trade, this study estimates the effects of unilateral trade policy reform and participating in a preferential trade agreement with regard to intraregional export performance in ECOWAS. These questions will constitute the main research problem for the study. The scope of the study is between 1980 and 2003. The choice of the period is to be able to capture the impact effects of trade policy reform within the existing regional integration arrangement within the sub-region adequately. The rest of this study is divided into five sections. Section two focuses on the background of the study. A brief literature review and theoretical consideration is provided in

section three. Section four develops the empirical model. Section five discusses the empirical result. The study is rounded off with concluding summary in section six.

II. Background of Study

A. Trade Policy Reform among ECOWAS countries

Import Substitution Industrialization (ISI) strategies were at the heart of many developing countries development strategies during the 1960s and 1970s. The import-substitution strategies adopted were meant to produce locally the consumer goods which had previously been imported from developed countries, so as to enable the diversification of economies. These strategies, which aimed to begin with the production of final goods and move gradually towards intermediate goods and capital goods, were accompanied by restrictive external trade policies and considerable protection for emerging industries. Complex systems of tariff and non-tariff protection, exchange control and import licensing were set up to defend local production. Protection was designed to help emerging industrialists move up the learning curve during a transitional period when the domestic price of production exceeds international prices.

These strategies soon ran into problems (Bruton, 1998). The development of final goods production led to rapid increase in imports of intermediate and capital goods, leading to worsening trade imbalances and balance-of-payments deficits. Small domestic markets did not generate sufficient demand for the products of emerging industries, industries were prevented from reaping the advantage of economies of scale, and import substitution was biased towards elite urban consumers to maintain political support while focusing on consumer goods for the middle class. The failure of the import –substitution strategies and the debt crisis in the early 1980s led to a new consensus on the importance of trade liberalization and exports in growth strategies. This new consensus was the main focus of the reforms initiated by SSA countries and the developing world in general from the early 1980s, within the framework of SAPs.¹ As a

result the mid 1980s witnessed the formulation and implementation of wide-ranging trade policy reforms by most SSA countries with the support of the IMF and the World Bank

Trade policy reform can be characterized as the shifting of control over imports and foreign exchange towards tariff based protection. The shift in the mode of control can occur in various stages. It can progress through the rationalization of the tariff structure, reduction of tariff dispersion, and lastly reduction/elimination of tariff rates. Trade policy reform is therefore expected to reduce the anti-export bias and makes export more competitive in the international market through the reduction/elimination of tariff barriers, non-tariff barriers, export duties and exchange rate distortions. Prior to trade policy reform among ECOWAS countries, exports within the region was distorted by export taxes, overvalued currencies, export licensing, existence of monopoly marketing boards and high import duties. Trade policy reform could be said to have moved rapidly in many ECOWAS countries in the 1990s through the adoption of a combination of unilateral and regional modalities.

Tariff rates in mostly all the ECOWAS countries were compressed. For example, Ghana which recorded an average tariff rate of 40.0 per cent on manufactured products now recorded a low tariff rate of 8.9 per cent in 2000. (Table 1 in the appendix) A similar result is witnessed for other SSA countries in products such as chemical, machinery as well as other manufactured products. In West Africa, for instance, West African Economic and Monetary Union (UEMOA) implemented its common external tariff (CET) as it transformed itself from a free trade area (FTA) into a customs union between 1994 and 1998. As a result, its member-countries (Benin, Burkina Faso, Cote d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo) currently have simple average import tariffs of 12% within the range of 0-20%. (Oyejide, 2004). Other members of ECOWAS such as Nigeria have decided to adopt the same CET as UEMOA, and the decision is currently being implemented. For instance, the CET groups custom duties into four major categories in Niger, Mali, Benin and Burkina Faso in the order essential goods (0%);

staple goods (5%), intermediate goods and inputs (10%) and final consumer goods (20%). Nevertheless, countries such as Ghana and Guinea have continued to implement their unilateral import liberalization programmes so that by 2002, their simple average tariffs were 14.6% and 6.5% respectively, although Ghana's maximum rate remained as high as 279%.

In order to boost export performance, several measures were adopted to reduce anti-export bias in most of the ECOWAS countries. Export taxes and levies were significantly reduced or totally eliminated in most of the ECOWAS countries. For example, Mali have abolished export levies and duties on most exports (the only export levies in force are the service provision contribution (CPS) of 3% on the f.o.b value of gold and the tax of CFAF 7.5 per kg of fish), Ghana has no export quotas or voluntary export restrains. The remaining export prohibitions that still exist in some cases apply to sensitive goods, the need to ensure quality and for health and environmental reasons.

Exchange rate regimes in most of the ECOWAS countries were also liberalized. Consequently, a good number of ECOWAS countries also stopped fixing exchange rates and overvaluing their currencies in order to stimulate exports and make the economy more competitive. Nigeria and Cote d'Ivoire virtually eliminated exchange rate premiums, where buying and selling of foreign exchange is now market-based and abolishing previous restrictions on current transactions. The system of multiple exchange rates was abolished in Burundi. After liberalizing its external sector in 1990, Benin Republic's currency was devalued and its black market premium averaged only 2 per cent between 1990 and 1999. We can therefore conclude that most SSA countries witnessed a significant reduction of trade barriers. Import restrictions are now lower and export barriers have been removed.

The adoption of a liberal trade policy regime has long been a central objective of ECOWAS. December 31, 2003 was the original start date for a two year transition to an

ECOWAS free trade area with a common external tariff. In order to compensate countries for the loss in tariff revenues, ECOWAS proposed that governments would submit applications to a central fund which would be financed by member contributions. However, as of 2000, the trade liberalization scheme was still not operational. Thus, the ECOWAS trade liberalization scheme has been marked by the unwillingness of many countries to implement its provisions relating to elimination of tariff and non-tariff barriers to trade and the functioning of a compensation mechanism. (Ajayi, 2005) This is reflected by: difficulties in standardizing and harmonizing customs documents and tariff schedules; failure to extend total exemption from duties and taxes for unprocessed goods and traditional handicraft products; failure to apply preferential tariffs to approved industrial products; continued existence of non-tariff barriers, especially in the case of food and textiles; absence of certificates of origin for unprocessed goods and for industrial goods, and failure to produce both the certificates of origin and the export declaration; rigid border formalities and customs officials' intransigence among others.

B. Regional Integration within the ECOWAS sub-region

As in other parts of the developing world, the experience of West Africa with formal regional integration has been largely driven by the desire to overcome the constraint of small economic size, which was hampering their ability to industrialize efficiently, by extending the logic of protected and state-led economic development to a larger number of countries. (Aryeteey, 2002). Established on the 28th of May, 1975, the main objectives of ECOWAS were the elimination of all tariffs and non-tariff barriers between members, the establishment of a customs union, unified fiscal policy and co-ordinated regional policies in the transport, communication, energy and other infrastructural facilities. More specifically, the ECOWAS treaty sought to:

- a) Eliminate, between member states, custom duties and other charges of equivalent effects on imports and exports:
- b) Eliminate quantitative and administrative restrictions on trade among members:

- c) Establish a common tariff structure and commercial policy towards non-member countries:
- d) Eliminate obstacles restricting the free movement of persons, services and capital between member states:
- e) Harmonize agricultural policies and promote common projects in the member states notably in the fields of marketing, research and agro-industrial enterprises:
- f) Evolve a common policy in, and jointly develop, the transport, communication, energy and other infrastructural facilities:
- g) Harmonize economic, industrial and monetary policies of members, as well as eliminate disparities in the levels of their development; and
- h) Establish a fund for co-operation, compensation and development.

Under the theoretical framework for economic integration, the implementation of the above is expressed as follows: item a and b implies the establishment of a free trade area; item c is a custom union; item d - a common market and a functioning of e - g is an economic union.² (CDD, 2003) Thus, the ECOWAS saw regional integration as a multi-step process eventually leading to a customs union and then a common market integrating states in the West African sub-region politically and culturally. The three current integration organizations within West Africa (ECOWAS, West African Economic and Monetary (UEMOEA), and Mano River Union (MRU)) have promoted quite similar projects to advance their objectives, including the establishment of institutions for human development, agricultural and industrial development, and monetary cooperation. (Table 2 in the appendix presents the membership of regional integration arrangements in West Africa)

One of the best known initiatives of UEMOA has been the institution of Common External Tariff (CET) rates for all member countries in January 2000. This then imposed, by default, a higher tariff on goods from all non-UEMOA countries, including ECOWAS countries. Most trade within ECOWAS is already tariff-free. Free movement of designated goods, reduction of custom duties and ECOWAS passport/traveling documents has also been adopted.

The three provision of the protocol came into force in 1980, 1986, and 1989 respectively. Among the major events within the sub-region include the decision of the summit of 1980 to establish a Free Trade Area (FTA) for unprocessed agricultural products and the signing of the Protocol on Non-Aggression and Mutual Defence Assistance.

Table 3 in the appendix present data on intra and extra export flows of ECOWAS countries. Intra-ECOWAS export performs poorly with reference to the amount of extra-ECOWAS exports. Agriculture is the predominant occupation for majority of the ECOWAS countries such as Benin, Burkina Faso, Côte d'Ivoire, the Gambia, Ghana, Guinea, Guinea-Bissau, Mali, Niger, Nigeria, Senegal, Sierra-Leone, and Togo. The regional trade is clearly dominated by Nigeria, Ghana, Côte d'Ivoire and Senegal. (see Table 3) Nigeria's export to other West African States has been mainly crude oil and refined oil while Cote d'ivoire export to other West Africa countries and the rest of the world is cocoa, coffee, timber, petroleum, cotton.(see table 4 in the appendix) Sierra Leone, Guinea and Gambia have the smallest share of export flow across the sub-region. Important West African and African states destinations in 1985 - 1995 included Côte d'Ivoire, Mali, Mauritania, Niger, Ghana, Burkina Faso, Gabon and Tanzania. Ghana's exports mainly composed of cocoa beans, sawn timber, aluminium, coffee, yam, all of which accounted for 53% of the country's total exports. Although intra-ECOWAS trade constitutes a marginal share of the total trade of ECOWAS member countries this share has been growing, especially after the mid 1980s up to the present period.

While the lack of potential for increased trade within the ECOWAS region is frequently mentioned as an explanation of the lack of success of ECOWAS evidence abounds that the potential for intra-ECOWAS trade is greater than is usually thought. The calculated statistics are for official trade. It is known that for many West African countries a significant volume of unofficial trade (over 80%) is done through the informal sector.

III Literature Review and Theoretical Considerations

The assertion of a strong influence of trade policy reform on export performance in developing countries has remained largely unresolved in the literature. The argument is based on whether trade liberalization has led to positive or negative export performance. While some studies have found a positive association between trade liberalization and export performance (Svedberg, 2000, Santos-Paulino, 2003, Ahmed 2000, Michaely et al 1991, Thomas et al 1991), some other studies have also found little empirical evidence to support a link between trade liberalization and export performance (Shafaeddin, 1994; Greenaway and Sapsford, 1994; Jenkins, 1996; Agosin, 1991, Clarke and Kirkpatrick, 1991).

Singer and Gray (1988) queried if trade policy influences export performance. Using empirical data (67-73, 77-83) they show that changes in world demand carried greater weight in determining export performance than changes in trade policy. The (Spearman) rank correlation between export orientation and growth is high and significant when world market conditions are favourable. Also the correlation is stronger (and significant) for higher-income countries for both sub periods than for lower-income countries. More recently, Ahmed (2000) investigated the response of Bangladesh's aggregate merchandise exports to a real exchange rate-based trade liberalization programme during the period 1974-1996. Empirical results suggest that there exists a unique long-run or equilibrium relationship among real quantities of export, relative export price and export-weighted real effective exchange rate, relative export price (lagged two quarters), real effective exchange rate, predicted values of real GDP (lagged one quarter) and a dummy variable capturing the effects of trade liberalization programme have all emerged as important determinants of an aggregate export supply function for Bangladesh.

Similarly, Santos-Paulino (2000) examined the impact of trade liberalization on export performance for a sample of developing economies using the export demand function approach. Results from his study showed that exports react negatively to an increase in relative prices and positively to an increase in world income growth, while export duties have detrimental effect on

export performance although the impact is relatively small. Among regional blocs, her result indicated that Latin America and Africa possessed high-income elasticities and highest long run price elasticity. He concluded that trade liberalization emerges as a fundamental determinant of export growth in all the countries in their sample. Utkulu et al (2004) argued that a traditional model of export supply with explanatory variables such as export prices, variable home and foreign costs, and productive capacity can be further extended by taking the effects of trade reform which consists of measures to reduce anti-export bias. He argued that trade reform leads to the reduction of anti-export bias and strong supply response. The result revealed that prices, relative prices, and real exchange rates have no significant effect on the Turkish export supply in the long run. In addition, the result from the extended model also showed that factors such as trade reform, import compression, and technological innovation have significant effects on the Turkish export supply. Sanguinetti, Pantano and Posadas (2002) examined the consequences of the unilateral liberalization and regional agreements on the trade structure of Argentina. They found evidence that the trade structure of Argentina has suffered a significant modification. In particular, imports and exports have been subject to a process of de-concentration due to trade reform. Their result revealed that tariff preferences and economies of scale were responsible for these changes.

Nevertheless, evidence tends to show that successful trade liberalization has been associated with devaluations either at the same or beforehand. (Ahmed 2000, Edwards, 1993). For instance, Jenkins (1996) established that one of the anticipated gains from the trade liberalization policies adopted by many Latin America countries in recent years is improved export performance. He concluded that improved export performance is largely the result of a more realistic and more stable real exchange rate after, while the trade policy reforms have had little impact. He noted certain deficiencies of Bolivia's export performance, such as the increased emphasis on primary and semi-processed products, and the lack of diversification in terms of both products and markets. In the same vein, Cameron, Kihangire and Potts (2002)

examined the long-run elasticity of response of its predominantly agricultural primary commodity exports during the floating exchange rate regime in Uganda. The results suggest that Uganda's exports are positively and significantly correlated with relative prices and the levels of exchange rate, but negatively correlated with the terms of trade, capacity utilization, and exchange rate variability. Closer examination of individual sub-sectors indicates that the negative response to exchange rate variability is not universal for all products. Policy-wise, the results suggest that Uganda's export-led growth strategy must recognize the importance of these issues, but that it should also take full account of the differences in supply conditions and responses of particular sub-sectors.

It has been argued that the adoption of unilateral liberalization can enhance the performance of a country in preferential trade agreements. Austria (2001) paper examined the policies pursued by the Philippines in response to the increasing economic integration and interdependence of nations and regions around the world, focusing in particular on the country's multi-track approach to trade and investment liberalization. The country's experience points to the importance of domestic policies that foster domestic efficiency and competitiveness before one can participate in regional integration and face global competition. The country first pursued trade and investment liberalization policies in the 1980s and 1990s to eliminate the inefficiency of domestic industries arising from its past protectionist regime. The unilateral liberation efforts resulted to a better allocation of resources and improvement in the overall competitiveness of domestic industries. The improved competitiveness enabled the country to participate in the 1990s in regional trading arrangements, AFTA and APEC, and in the much bigger WTO. The challenge facing the country now is how to deepen and expand its participation in regional integration as the proliferation of regional trading arrangements has brought forth many new competitors for the country, both for its export markets and sources of foreign direct investment. Areas where further reforms are necessary are identified to enable the country to realize the full gains from economic integration.

Similarly, Mengistae and Teal (1998) examined the role of trade liberalization, regional integration and firm performance in Africa's Manufacturing Sector. Their study attempted to understand the role of regional trade and its effects on the performance of firms. The evidence from the study revealed that unilateral tariff reductions have enhanced regional trade. Regional trade can be a method for firm growth provided it is treated as a stepping stone to the international market and not used as a device to protect firms that cannot compete internationally. In a similar study, Kagira (2001) examined the effects of regional integration on the performance of intra- industry trade in Eastern and Southern Africa. The PTA Treaty specified eight groups of NTBs that had to be relaxed and eventually eliminated. These included quantitative restrictions, export and import licensing, foreign exchange allocation, stipulation of import sources, prohibition of imports advance import deposits, conditional permission for imports and special charges for acquiring foreign exchange. By 1992, significant progress had been made in relaxation of these NTBs. However, restrictive import licensing and the system of foreign exchange allocation remained as bottlenecks to intra-COMESA trade expansion. Despite these efforts, the success of integration programmes in terms of increased trade between the COMESA member states has been at its best marginal. In contrast to the argument of earlier studies, Jebuni (1997) recognized the challenges of trade reform in Africa and argued that full trade liberalization is a more useful approach to development than merely engaging in preferential trade agreements. He argued that regional trade integration may difficult to be enforced since it may lead to losses in government tariff revenues and instability in the balance of payments. He observed that African countries usually face high transportation costs for intraregional trade compared to the costs involved in relations with industrialized countries. He finally concluded that these factors undermine the arguments in favor of trade integration in SSA.

Amphonsah (2002) examined the analytical and empirical evidence of trade policy effects of regional integration within African framework. Greater trade policy liberalization may

lead to stronger economic growth, notwithstanding the controversies pertaining to trade and development policies, and the mixed results of specific impacts from various studies. A major complement of RTAs is the ability to import knowledge, ideas, investment goods and intermediate inputs (such as technology, skilled management, etc.,) from successful integrating regions. He also noted that Pursuit of open economic strategies is the key incentive to gaining greater access to markets. Therefore, countries must adopt trading systems that are open, transparent, rules based, and fair. They must also learn to negotiate as a trading bloc.

Ajayi (2005) reviewed the process of regional financial and economic integration in West Africa. She sought to determine the prospects for further integration in West Africa given the region's unique characteristics and the particular experience of ECOWAS countries. Based on results from a gravity model analysis, she revealed that participation in the CFA monetary union and ECOWAS' preferential trade agreements appear to have improved intraregional trade. However, the challenges of political instability, maintaining fiscal resources, and finding a suitable monetary anchor present considerable concerns for the creation of a single West African Monetary Zone.

The main theoretical argument is that trade liberalization reduces anti-export bias. Balassa (1982) argued that there is incentive effect of protection on production for export vis-à-vis production for the domestic market, which is sometimes referred to as relative anti-export bias (Jenkins, 1996). The existence of large profits to be made in protected import substituting industries will make firms to be unwilling to invest in production for export. Also, protections can also adversely affect the competitiveness of exports in relation to the production of other countries. Since, the cost of inputs may be higher than world market prices, protection allows exporters to be at a competitive disadvantage in international markets. As a result, local exporters will likely suffer a cost penalty unless they are granted exemptions from duties on imported inputs and are free to substitute imports to domestically produced inputs.

In addition, trade liberalization encourages the availability of imported inputs that may be critical to the export production. Under very restrictive trade regimes, local exporters may not be able to acquire certain key imported intermediate inputs which they require in order to produce for exports. According to Morrisson (1976) protectionist policies not only discourage exports directly through their effects on the costs and availability of imported inputs, but also indirectly through their impact on the exchange rate. Protection reduces the demand for foreign exchange below the level that would exist under free trade, leading to a higher exchange rate than would apply in the absence of protectionist measures. The consequent overvaluation of the currency is therefore a disincentive to exporters. (Jenkins, 1996).

Nevertheless, the theory of regional trade agreements (RTAs) dates from Viner (1950), who drew the distinction between trade-creating and trade-diverting effects resulting from RTA formation. Viner's contribution showed that even though an RTA liberalizes trade by reducing at least some barriers, it does not necessarily follow that this will generate net gains from trade. Net gains would be expected if all barriers to trade are reduced on a non-discriminatory basis, but RTAs by their nature discriminate against non-members. In RTAs distortions between sources of supply are not eliminated, but are shifted. If partner country production displaces higher cost domestic production then there will be gains, or trade creation. However, if partner country production displaces lower cost imports from the rest of the world, this is trade diversion. (Geloso-Grosso, 2001) Since distortions may likely remain in some activities in the economy, it may not be necessarily true that removing part of the distortions (for example, eliminating trade barriers on UEMOA members but maintaining them on non-members within the ECOWAS countries) is welfare improving. However, it has been argued that for any proposed customs union or free trade area there could be a set of common external tariffs that would precisely leave the new trading bloc's trade with non-member countries unchanged, so preventing trade diversion from taking place.

Member countries in a RTA can be affected through different mechanism. One of such mechanisms is when the external barriers of a regional arrangement are low, the potential for trade diversion is low because lower external tariffs offer less scope for the displacement of imports from non-member countries. Also, market enlargement allows firms to exploit economies of scale more fully within a RTA. The possibilities are that firms in member countries will likely produce greater quantities of products after formation of an RTA. This therefore occurs as trade preferences which results in demand shift in favour of intra-regional trade to enable these firms achieve greater economies of scale and lower output prices as they capture (and create) larger markets for their outputs at home and abroad. Finally, according to Smith and Venables (1988) RTAs may successfully erode market power of dominant firms in participating countries through encouraging market entry of competing firms from other member countries, bringing lower prices.

Thus, the potential advantages of trade liberalization and integration for African countries are firmly rooted in a theory of economies of scale. The small size of most SSA economies points to unification as a useful means of expanding markets and increasing participation in the global economy. Consequently, a relaxation of trade restrictions within a given region could reduce internal transport costs, stimulate intraregional trade, and ultimately increase the growth and productivity of member states. Additionally, intraregional liberalization could encourage African countries to adopt a more outward-oriented attitude towards trade instead of the protectionist, inward-oriented mentality which frequently exists. (Ajayi, 2005)

IV The Model

The standard framework for the analysis of the direction of trade and, more specifically, of the potential and realized trade flows, involves the application of the gravity model. Despite theoretical controversies surrounding the model since its inception the gravity model has proven to be the most accurate tool for the explanation and prediction of bilateral trade flows.³

(Freinkman, et al 2004). The theoretical underpinnings of the gravity model gave rise to two model types. The first type is based on the derivation of the gravity equation from the Herckscher-Ohlin model (Deardorff 1997). Given the classical nature of Heckscher-Ohlin world, the model can be applied to total trade flows. The second type of gravity model is derived under the assumption of competition in differentiated products (Helpman and Krugman 1985, Helpman 1987). Because trade in differential products pertains primarily to manufactured trade, this model describes only manufactured trade flows. ⁴

Trade between two countries is estimated to be proportional to their combined economic mass (measured by GDP per capita) and inversely proportional to their distance apart in the basic form of the gravity model. A higher income level signifies greater potential supply from the exporting country and increased demand in the importing country, leading to a positive effect on trade. However, a large population is expected to increase the ratio of domestic to foreign market production, which should allow greater output diversification. The result is expected lower potential demand in the importing country and lower potential supply from the exporting country, leading to an overall decrease in imports. The combined effect of GDP per capita is, however, positive. In addition, distance is expected to increase transport costs and impedes the flow of trade across countries.

Following the specification of Ajayi (2005) we specify a gravity model of trade for the ECOWAS sub-region. Different studies have used different approaches to specify a standard gravity model by including a variety of explanatory variables. Ajayi (2005) estimated a gravity model for the ECOWAS sub-region. She tested two hypotheses on whether: 1) participation in a common currency zone (for example, CFA) increases trade and whether 2) participation in a trade union (i.e., ECOWAS) increases trade. Her model specification is of the form:

$$\ln(M_{ij}) = \beta_0 + \beta_1 \ln(D_{ij}) + \beta_2 \ln(Y_i) + \beta_3 \ln(Y_j) + \beta_4 \ln(Pop_i) + \beta_5 \ln(Pop_j) + \beta_6 CFA + \beta_7 ECOWAS + \delta Z + \varepsilon_{ij}$$

where M_{ij} denotes the level of country i 's imports from country j ; D_{ij} denotes the distance between two countries; Y denotes real GDP; Pop denotes population; Z denotes a vector of other controls (same language, same colonizer and land contiguity); β and δ are coefficients which measure the impact of each variable. The expected signs for the coefficients are: $\beta_1, \beta_4, \beta_5 < 0$ and $\beta_2, \beta_3, \beta_6, \beta_7, \delta > 0$. However, her model only accounts for systematic trade arrangements (i.e., trade union participation), but does not specify other barriers to trade such as tariffs and exchange rate controls. This study therefore adopts the Ajayi (2005) model to examine the impact of trade policy reform, membership in a trade arrangement as well as participating in a common currency union on the performance of exports in the ECOWAS sub-region. The gravity model is therefore presented as:⁵

$$\ln(X_{ij}) = \beta_0 + \beta_1 \ln(D_{ij}) + \beta_2 \ln(Y_i) + \beta_3 \ln(Y_j) + \beta_4 \ln(Pop_i) + \beta_5 \ln(Pop_j) + \beta_6 TRF \\ + \beta_7 BMP + \delta Z + u_{ij}$$

where X_{ij} denotes the level of country i 's exports to country j ; D_{ij} denotes the distance between two countries; Y denotes real GDP; Pop denotes population; Z denotes a vector of other controls (common language and shared border); BMP denotes black market premium; TRF is average tariff rate; β and δ are coefficients which measure the impact of each variable and u_{ij} is the error term. The expected signs for the coefficients are: $\beta_1, \beta_4, \beta_5, \beta_6, \beta_7 < 0$ and $\beta_2, \beta_3, \delta > 0$. Thereafter, the model is extended to test the hypothesis that participation in a regional trade arrangement within ECOWAS encourages export performance. This is done by defining a dummy variable to take the value of one for countries in the same trading bloc and zero for others.

The model is therefore extended as:

$$\ln(X_{ij}) = \beta_0 + \beta_1 \ln(D_{ij}) + \beta_2 \ln(Y_i) + \beta_3 \ln(Y_j) + \beta_4 \ln(Pop_i) + \beta_5 \ln(Pop_j) + \beta_6 TRF \\ + \beta_7 BMP + \beta_8 UEMOA + \beta_9 MNU + \delta Z + u_{ij}$$

According to Ajayi (2005), the inclusion of political factors could contribute valuable information to understanding trade relations within ECOWAS especially given the political

instability of some member countries.⁶ Consequently, we extend the model by performing another test to examine the impact of political stability on export performance within ECOWAS. Thereafter, we try further to examine if membership in a currency union promotes trade within the ECOWAS sub-region. The sample data consists of bilateral exports flow between twelve ECOWAS member countries. The sample consists of observations for bilateral trade between ECOWAS' fifteen member countries at five year intervals between 1980 and 2003 ($12 \times 11 \times 5 = 660$). It excludes cases where no bilateral trade is reported or values are missing so that the final sample includes 520 observations.⁷ The source of data for the study is presented in Table 5 in the appendix.

V. Empirical Analysis

Table 6 in the appendix present the empirical result from our model. The result of the first model presented in column 1 reveals that GDP of the exporting country, the use of a common language and border sharing have a positive and significant effect on trade within the ECOWAS sub-region. Distance, black market premium, landlocked and tariff rate negatively affects exports within the sub-region. Contrary to the a-priori expectation and Ajayi (2005) model the population variable is not significant and does not have the correct sign. In the second model, membership of the UEMOA trading bloc appears to increase trade by a factor $e^{0.354} \approx 1.42$ and the effect of belonging to MNU appears to reduce the level of intraregional trade $e^{1.071} \approx 2.92$. Both results are statistically significant at the 95% confidence level. In addition, the estimated effects of the other variables (common language, shared border, GDP_i, GDP_j) are statistically significant and positively affects trade within the ECOWAS sub-region. The coefficient of the distance and landlocked indicator also affects trade negatively. The population variables are now negative although the effects are not statistically significant. This is in line with Ajayi's earlier findings.

The estimated coefficient of 0.036 on the proxy for political stability reveals that FH ranking is found to have an insignificant effect on intraregional trade. This result is however contrary to the results from the literature. We hypothesized a negative relationship. The use of alternative indicators of political climate is therefore suggested. For instance, sensitivity analysis may be carried out using the International Country Risk Guide data on political climate since they provide data on corruption, quality of government and rule of law.⁸ Tariff rate is again significant and have a negative effect on the performance of exports within the sub-region. In addition, black market premium also have a negative effect on export performance but the impact appears to be small. The effect of belonging to UEMOA and MNU on export performance is virtually unchanged in the model.

The last column of table 4 presents the result for the ECOWAS sub-region without Nigeria. Since Nigeria is a large oil-exporting country and oil shocks can asymmetrically affect Nigeria's economy, and may therefore affect Nigeria's trading relationship with the rest of ECOWAS countries that are not captured by the model. The result is therefore tested by removing observations involving Nigeria. From the result, the effect of belonging to UEMOA appears to be greater while the effect of belonging to MNU appears to be unchanged. The common language and shared border dummy remain consistently positive and significant as some of the factors that affect export performance within the ECOWAS sub-region.. The existence of trade barriers is also detrimental to export performance within the region from the result recorded for the tariff rate and black market premium.

The result of the empirical analysis of this study confirms the result found in earlier studies (Rose, 2000; Ajayi, 2005). However, my study is different from Ajayi (2005) in some significant respect. Ajayi used imports for observations between 1970 and 2002 while this study focuses on exports for observations between 1980 and 2003.⁹ Nevertheless, in spite of this difference, the effect of participating in a regional trading bloc within the ECOWAS sub-region on trade yields a similar result. The result is also similar to those obtained by Carrere (2004).

She however obtained a higher estimate in her result. She estimated that the effect of belonging to UEMOA is between 1.14 and 0.76 depending on the model specification. Although positive the estimate is between 0.336 and 0.426 for this study. The difference in results could be from the bias encountered in including non-UEMOA and non-MNU countries in the sample, which may lead to an underestimation of intra-regional trade within the two trading bloc in ECOWAS since the study did not control for informal trade between member countries.

VI. Concluding Summary

Results from the gravity model revealed that membership of the UEMOA trading bloc has improved export performance among its members while the membership of MNU appears to have deteriorated export performance. In addition, the existence of artificial barriers to trade among ECOWAS countries negatively affects export performance. Increased utilization of trade policy tools such as tariff and non-tariff barriers, export subsidies, and credits to exchange rate policies should be used to reduce anti-export bias. Other trade restrictive measures such as rules of origin, import duties and taxes, import prohibitions, quantitative restrictions and licensing should be reduced to the barest minimum if not completely eliminated.

Unilateral trade barrier reductions can interact with participation in preferential trade agreements to enhance export performance within the ECOWAS sub-region. While the unilateral liberalization efforts could result in better allocation of resources and improvement in the overall competitiveness of domestic industries, the improved competitiveness would enable the country to participate successfully in regional trading arrangements. Although the political indicator variable is insignificant, ECOWAS leader should make attempt to maintain political stability within their region in order to realize the full potential of trade policy reform and regional integration on their export performance.

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APPENDIX

Table 1: Average Applied Import Tariff Rates on Non Agricultural and Non Fuel Products for Selected SSA countries.

Product Category	Primary Products	Manufactured products	Chemical products	Machinery and Transport equipment	Other Manufactured products
Cote d'Ivoire					
1980-1983	23.6	26.8	27.4	24.9	31.0
1984-1987	18.1	23.1	19.7	19.9	30.8
1993-1996	18.25	18.3	9.2	20.5	21.7
2001-2003	10.6	10.7	5.4	10.2	28.6
Ghana					
1980-1983	38.5	40.0	32.8	38.3	48.8
1988-1990	29.2	29.4	29.5	28.8	30.2
1993	9.2	9.2	9.7	8.4	10.4
2000	8.9	8.9	11.2	5.2	13.3
Nigeria					
1980-1983	19.8	26.2	17.0	22.0	42.9
1984-1987	18.6	21.0	14.5	20.0	29.4
1988-1990	22.6	29.4	19.7	22.9	49.6
1991-1993	22.2	28.2	22.9	22.6	43.7
1995-1998	16.2	16.3	14.3	14.1	19.5
1999-2002	17.6	17.6	16.2	17.1	19.6

Source: Rodrik (1997) UNCTAD, 2005.

Table 2: Membership of Regional Integration Arrangements in West Africa

ECOWAS-1975	MRU-1973	UEMOA-1994
Benin	Guinea	Benin
Burkina Faso	Liberia	Burkina Faso
Cape Verde	Sierra Leone	Cote d'Ivoire
Cote d'Ivoire		Guinea-Bissau
Gambia		Mali
Ghana		Niger
Guinea		Senegal
Guinea-Bissau		Togo
Liberia		
Mali		
Niger		
Nigeria		
Senegal		
Sierra Leone		
Togo		

Source: UNCTAD Handbook of Statistics (2005)

Table 3: Export Flows in ECOWAS (1980-2003) US \$ Millions

Country	1980-84	1985-89	1990-94	1995-99	2000-03
Benin					
Intra-ECOWAS Exports	1.30	2.04	3.05	3.40	2.70
Extra-ECOWAS Exports	354.27	514.00	520.02	1056.28	17.44
Niger					
Intra-ECOWAS Exports	11.16	4.75	11.30	12.02	15.20
Extra-ECOWAS Exports	1930.14	1365.33	1228.76	977.28	1.95
Guinea					
Intra-ECOWAS Exports	0.37	0.51	1.22	0.79	0.47
Extra-ECOWAS Exports	1670.83	244.66	3083.02	3097.37	66.52
Gambia					
Intra-ECOWAS Exports	2.56	1.03	1.84	0.50	0.08
Extra-ECOWAS Exports	206.94	356.33	700.30	101.92	2.95
Burkina Faso					
Intra-ECOWAS Exports	4.30	4.49	4.94	5.87	3.99
Extra-ECOWAS Exports	351.24	538.37	497.51	962.46	12.25
Sierra Leone					
Intra-ECOWAS Exports	0.08	0.02	0.00	0.00	0.23
Extra-ECOWAS Exports	1069.92	646.96	665.17	118.16	8.98
Togo					
Intra-ECOWAS Exports	7.56	3.76	7.86	5.14	22.13
Extra-ECOWAS Exports	1069.92	1121.00	1177.92	1177.92	1.43
Senegal					
Intra-ECOWAS Exports	17.20	16.92	16.39	25.47	33.17
Extra-ECOWAS Exports	2799.64	3587.63	3391.98	3642.15	47.67
Ghana					
Intra-ECOWAS Exports	5.87	4.55	23.61	19.82	27.35
Extra-ECOWAS Exports	4180.36	4155.62	5731.83	8080.06	133.33
Mali					
Intra-ECOWAS Exports	8.011	6.29	2.12	1.46	1.72
Extra-ECOWAS Exports	675.88	858.07	1127.53	1361.92	16.67
Cote d'Ivoire					
Intra-ECOWAS Exports	61.25	78.42	125.5	164.31	175.82
Extra-ECOWAS Exports	12778	15066.27	13953.71	21613.07	242.11
Nigeria					
Intra-ECOWAS Exports	72.29	68.58	130.73	187.87	265.45

Extra-ECOWAS Exports	55913.81	744.07	934.83	1201.88	1677.22
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Author's Computation from Statistics obtained from IMF Direction of Trade and Statistics

Table 4: Primary Trade Commodities for ECOWAS Countries

COUNTRY	Primary Exports
Benin	Cotton, Crude oil, Palm products, Cocoa
Burkina Faso	Cotton, Livestock, Gold
Côte d'Ivoire	Cocoa, Coffee, Timber, Petroleum, Cotton, Bananas, Pineapples, Palm oil, Fish
Gambia, The	Peanut products, Fish, Cotton lint, Palm kernels, Re-export
Ghana	Gold, Cocoa, Timber, Tuna, Bauxite, Aluminum, Manganese ore, Diamonds
Guinea	Bauxite, Alumina, Gold, Diamonds, Coffee, Fish, Agricultural products
Mali	Cotton, Gold, Livestock
Niger	Uranium ore, Livestock, Cowpeas, Onions
Nigeria	Petroleum and petroleum products 95%, Cocoa, Rubber
Senegal	Fish, Groundnuts (peanuts), Petroleum products, Phosphates, Cotton
Sierra Leone	Diamonds, Cocoa, Coffee, Fish
Togo	Reexports, Cotton, Phosphates, Coffee, Cocoa

Source: Central Intelligence Agency, *World Factbook*.

Table 6: Sources and Description of the variables used in the Regression

Variable	Definition and Sources
Exports _{ij}	Exports of country i to country j. Source: IMF Direction of Trade Statistics
Ln(Distance _{ij})	Distance between two countries. (Distance between commercial centers were used to proxy this variable) Source: Central Intelligence Agency's World Factbook.
LnGDP _i	Gross Domestic Product of country i. Source: World Bank World Development Indicator (2005)
LnGDP _j	Gross Domestic Product of country j. Source: World Bank World Development Indicator (2005)
Ln(Population _i)	Total Population of country i. Source: World Bank World Development Indicator (2005)
Ln(Population _j)	Total Population of country i. Source: World Bank World Development Indicator (2005)
Common Language	Dummy variable equals 1 if country i and j speak the same language and zero otherwise. Source: Central Intelligence Agency's World Factbook.

Shared Border	Dummy variable equals 1 if country i and j shared the same border and zero otherwise. Source: Central Intelligence Agency's World Factbook.
Landlocked	Dummy variable equals 1 if the country is landlocked and zero otherwise. Source: UNCTAD Handbook of Trade and Statistics (2005)
UEMOA	Dummy variable equals 1 if a country is a member of UEMOA and zero otherwise. Source: UNCTAD Handbook of Trade and Statistics (2005)
MNU	Dummy variable equals 1 if a country is a member of MNU and zero otherwise. Source: UNCTAD Handbook of Trade and Statistics (2005)
Tariff	Average tariff rate Source: http://siteresources.worldbank.org/INTRANETTRADE/Resources/tar2002.xls
Black Market Premium	Black Market Premium. Calculated as (Parallel Market exchange rate / Official exchange rate-1)*100) Source: Easterly and Sewadeh (2002) The data from the Easterly and Sewadeh was updated by statistics obtained from Global Development Finance & World Development Indicators (2005)
FHR	Freedom House Ranking. Source:
CFA	Dummy variable equals 1 if a country is a member of the CFA zone and zero otherwise. Source: Central Intelligence Agency's World Factbook.
ECOWAS	Dummy variable equals 1 if a country is a non-member of the CFA zone and zero otherwise. Source: Central Intelligence Agency's World Factbook.

Table 5: Empirical Results

Variable	(1)	(2)	(3)	(4)
Constant	-6.639 (4.494)	-6.953 (4.950)	-6.930 (4.934)	-4.682 (2.836)
Ln(Distance _{ij})	-0.372 (2.218)**	-0.315 (1.985)**	-0.320 (2.012)**	-0.332 (1.854)***
Ln(GDP _i)	0.812 (3.620)*	1.116 (5.179)*	1.047 (4.670)	0.969 (4.237)*
Ln(GDP _j)	0.313 (1.489)	0.396 (1.981)*	0.393 (1.968)**	0.293 (1.407)
Ln(Population _i)	0.396 (1.598)	-0.009 (0.038)	0.601 (0.244)	-0.034 (0.128)
Ln(population _j)	0.036 (0.154)	-0.054 (0.242)	-0.045 (0.203)	0.039 (0.170)
Common language	0.305 (2.99)**	0.244 (2.426)**	0.244 (2.430)**	0.203 (1.901)**
Shared border	0.247 (2.004)**	0.280 (2.374)**	0.277 (2.352)**	0.326 (2.559)**
Landlocked	-0.695 (5.535) ***	-1.012 (8.251) ***	-1.018 (8.306) ***	-1.014 (8.155)
Black Market Premium	-0.002 (4.280)*	-0.000 (0.409)	-0.000 (0.492)	-0.001 (0.813)

Tariff rate	-0.001 (0.830)	-0.010 (2.253)**	-0.012 (2.493)**	-0.015 (2.882)*
UEMOA		0.354 (3.021)*	0.336 (2.846)*	0.426 (3.179)*
MNU		-1.071 (5.713)**	-1.128 (5.806)***	-1.034 (5.029)*
FH Ranking			0.036 (1.113)	0.045 (1.321)
Adj. R Squared	0.264	0.331	0.331	0.291
No of observation	520	520	520	468

Note: (1) *The dependent variable is Expt_{ij}.*

(2) *, **, *** indicate that a coefficient is significant at the 1, 5 and 10 percent level respectively.

(3) Absolute values of t-statistics in parentheses

¹ Other reasons identified by Oyejide, Ndulu and Gunning (1999) as stimuli for the liberalization of trade regimes include the conditions imposed for gaining access to external finance, positive external shock, specific country own initiative, and membership in a sub-regional economic integration scheme.

² However, ECOWAS is still some way from being a common market because free movement of labour remains a distant and difficult aspect

³ Deme (1995) uses the model exclusively to estimate the effects of participation in ECOWAS. He finds that while intraregional trade remains a low proportion of total ECOWAS trade, it has experienced a higher growth rate than external trade. Carrère (2004) comparatively evaluates the effects of monetary and trade integration. She concludes that PTAs have increased trade through diversion whereas monetary unions were trade creating. (Ajayi, 2005)

⁴ Baldwin (1994) provides an example of an empirical gravity model of this type.

⁵ The choice of tariff rate and black market premium in the model requires some explanation. The reduction in the level of tariff as a measure of trade liberalization reduces price of importables relative to price of exportables and leads to shift of resources from importables to exportables. This fall in the import tariff rate and other import restrictive measures is expected to reduce the price of importables which is used in the production of exportables. This means that domestic firms producing exports can import cheaper inputs, therefore reducing the average and marginal costs of the firms. Also, the existence of a black market premium on the exchange rate could have effects equivalent to a formal trade restriction. For example, if exporters have to purchase foreign inputs using foreign currency obtained on the black market, but remit their foreign exchange receipts from exports to the government at the official exchange rate, the black market premium acts as a trade restriction.

⁶ For instance, corruption and political instability are rife among SSA countries and could likely affect trade patterns between ECOWAS countries.

⁷ We exclude Guinea-Bissau, Cape Verde and Liberia due to inadequate data on some variables. Also, observations where trade is 0 are excluded because $\ln(0)$ is undefined.

⁸ The International Country Risk Guide data was not available during the time of compiling this study.

⁹ Rose (2000) includes total trade and not just imports or exports for observations between 1970 and 1990.