International Journal of New Technology and Research (IJNTR)
ISSN:2454-4116, Volume-2, Issue-1, January 2016 Pages 67-79

Accounting for Unobserved Heterogeneity in The Relationship between External Trade Benefits and Standard of Living in Eswacs; 1980 – 2013

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Abstract— **Cross boundary trade activities are characterized with feedback effect which is referred to as common factors in terms of global shocks, international spill-over effects, dynamic feedback effects, recession, business cycle shocks, global financial crisis and imported inflation. These effects are often transmitted from one country to another within a particular trade region, and are most time unobserved; hence unaccounted for. It is in the light of this worry;that this research is aimed at accounting for unobserved heterogeneity in the relationship between external trade benefits and standard of living in the five English Speaking West African Countries (ESWACs) from 1980 to 2013. These countries include; The Gambia, Ghana, Liberia, Nigeria and Sierra Leone). The study expressed external trade benefits as increase in export earnings (EXE), trade openness (TOP), total government expenditure (TGE) and reduction in foreign exchange rate (FER), and standard of living (SLR). Theoretically, the study relied on two trade theories, in practice; the study constructs a balanced panel data structure (BPDS) and methodologically, it adopted 2nd generation panel data econometric methods in its analyses. The results of the study reveal that external trade benefits have not been able to improve the status of standard of livingand the unobserved heterogeneity in the relationship between external trade benefits and standard of living in ESWACs is accounted for about 0.8746 (approximately 87%) with the period of study, indicating high level of unobserved heterogeneity in the relationship between external trade benefits and standard of living. Based on this result, the study therefore concluded that the inherent unobserved heterogeneity in the relationship between external trade benefits and standard of living has made the impact of external trade benefits on thestandard of living to be a trivial matter. Based on the findings and conclusion, the study recommended, among others, that the governments of ESWACs should encourage and support the real sector through subsidies and investment in social and physical infrastructure and agricultural and manufacturing sectors, and pay attention to investment in human capital as this will help to improve the standard of education and health status.**

Index Terms— **Unobserved heterogeneity, External Trade Benefits, Standard of Living, Gross National Income (GNI).**

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I. Introduction

A. *Background to the Study*

Essentially, every economy is part of the international community through external relations. External relations define the relationship that exists between one country and the rest of the world. Such a relationship may be political, religious, social, cultural, economic or otherwise. Irrespective of the dimension, it involves an association or bond between two parties (countries). When such relationship is discussed in economics sense, it gives recourse to international economics, which is a branch of economics that deals with external dealings between one country and others. In fact, this branch of economics has given credit to the high degree of economic interdependence which provides linkages, in which; one of such is international movement of goods and services; hence reflecting the importance of external trade.

External trade defines the buying and selling of locally produced goods and services in the international market. It is the trade that crosses national boundaries and involves the use of foreign currencies. In practice, such a trade defines the economic activity that takes place between the residents of a country and residents of other countries.Unambiguously, external trade is the exchange of both assets(capital) and consumer goods and services among nations in which payments are made using a transnationally recognized currency. Also, it shows the advantage a country has over another in the production of greater quantity of goods and service at low opportunity cost. Such an advantage is multifaceted, however, when it defines the motivating factors that encourage countries to embark on external trade it is construed as external trade benefits.

In recognizing this fact, Uzomba, Ajie and Gbosi (2015) say that the fundamental reason why countries indulge in external trade activity include among others, the need for economic growth and development through the economic benefits that accrue from external trade relations. They maintain that such benefits are defined as the comparative advantages that external trade gives to participatory countries in the international amphitheater. External trade benefits play considerably roles in development of countries, especially the less developed countries (LDCs). This has made the classical and neo-classical economists to attach so much importance to external trade in a country's development; hence they regard trade as an engine of growth and propeller of development (Jhingan, 2008).Within the context of this study, the benefits accruable from external trade relations include export

earnings, which will translate to total government expenditure and increased trade openness. Export earnings are financial proceeds from goods and services exported to the international market. Such proceeds are expected to be used for purpose of economic development, through standard of living.

This is why economic history suggests that economic benefits such as export earnings are a crucial factor in the development process. It suggests a strong linkage between economic development (standard of living) and export earnings, total government expenditure and trade openness. External trade activity is seen as a dynamic force that widens the extent of the market, increases division of labour, raises skill and specialization, and brings technical innovations. Such activity serves as a way of getting revenue into the coffers of countries that engage in international trade. Such revenue enables government to embark on some activities that would scale up the standard of living of her citizenry. Such activities constitute government expenditure in both recurrent and capital ways.

Total government expenditure is a primary responsibility of the public sector of an economy. It is a primary instrument of intra-sectoral resource allocation with implication on economic growth and development. It is expected that total government expenditure should translate into the lifting the standard of living through the earnings from external trade activities. Earnings or economic benefits of external trade relations are allocated to the various sectors of the economy through total government expenditure for the purpose of achieving macroeconomic objectives and development of the economy at large. Total government expenditure has high power to determine what happens to the standard of living of the people; hence it is theoretically expected to be positively related with standard of living, as it also leads to economic openness Trade or economic opennessis the ratio of export to GDP (export + import/GDP). It is believed that higher degree of openness ensures better flow of foreign investment from developed countries to their developing counterparts, which in tune will increase the production base and translate into production of exportable goods and increase gross domestic product (GDP). Economics literature suggests that higher degree of trade or economic openness, ceteris paribus, in an economy, gives higher standard of living, because trade liberalization increases job turnover and better economic fortune that would increase per capita income of the citizens and at the same time measures growth of international trade, which will balance the purchasing power parity among different countries of the world.

Standard of living therefore refers to the material basis of well-being, which is reflected in a person's consumption level. Because of this, academics and policy analysts often use real income as a proxy to measure living standard. In this study, it measures the cash incomes that can afford the stock of consumer durables goods and services, health, recreation, etc. that could affect the people's standard of living. Thus, standard of living of an individual or group of individuals is determined by their access to resources, which comprise of per capita income in relation to the ability to buy goods and services in comparison to other countries' currency, that is, purchasing power parity. Standard of Living refers to the level of wealth, comfort, material goods and necessities available to all socio-economic classes in a certain geographical area. The standard of living in this study is measured in terms of real GDP per capita (real income per head which is measured as GDP as ratio of mid-year population of a given country) valued in purchasing power parity in US dollar.

Purchasing power parity is a technique used to determine the relative value of different currencies. Theories that support purchasing power parity assume that in some circumstances (for example, as a long-run tendency) the value of goods and services would cost exactly the same number of say, US dollars if the trading countries are at par in terms of external trade. Purchasing power parity allows one to estimate what the exchange rate between two currencies would have to be in order for the exchange to be at par with the purchasing power of the two countries' currencies. A nation's GDP at purchasing power parity (PPP) exchange rates is the sum value of all goods and services produced in the country valued at prices prevailing in the United States. This is the measure most economists prefer when looking at per-capita welfare and when comparing living conditions or use of resources across countries.

The foregoing establishes the fact that external trade benefits have the propensity and capacity to improve the living standard in the developing and underdeveloped countries, as it has partly done to the advanced countries. So in the lives of countries that are economically integrated in West Africa such as ESWACs, it is expected that external trade serves as a means of addressing development issues. In line with this, the study used the foregoing as a background to investigate how external trade benefits, by accounting for the unobserved heterogeneity, in terms of export earnings, increase in total government expenditure, trade openness and foreign exchange rate (as a check variable) have impacted,on standard of living in English speaking West African countries (ESWACs) from 1980 - 2013. The English Speaking West African Countries (ESWACs) were selected on the bases of language, political history, membership to General Agreement Trade and Tariff (GATT), World Trade Organization (WTO) and West African Institute for Financial and Economic Management (WAIFEM) which was established by the Central Banks of the English Speaking West African Countries (ESWACs). These countries include: The Gambia, Ghana, Liberia, Nigeria and Sierra Leone. This is the background to this study.

B. Statement of the Problem

External trade has been regarded as an engine and propeller of economic prosperity in the Western world. The benefits accruable from economic activities of external trade have overtime been justified and accentuated as the worthwhileness and viability of external trade relations. Economic theories and reports by Denis (2000) and Usman

(2011) considerably suggest that external trade benefits are engine of economic growth and propeller of development and as such are recognized as one of the factors responsible for economic prosperity of the developed and developing world.

In appreciating the importance of external trade to the development and improve of standard of living in a country, it is noteworthy to point out that as a result of external trade, countries are free to trade with one another, and resources are transferred from the rich nations to the poor ones. However, as this channel is observed to be viable in facilitating external trade, it is equally critical to annotate that such transfers go with numerous unobserved heterogeneity which are perceptively referred to as common factors in terms of global shocks, international spill-over effects, dynamic feedback effects, recession, business cycle shocks, global financial crisis and imported inflation. These effects are often transmitted from one country to another within a particular trade region, and are most time unobserved and unaccounted for, thereby leading to negative externality that affect the supposedly healthy relationship between external trade benefits and standard of living in the ESWACs.

Usually, it has devastating effects in such a way that the economic strength of a country would be negatively affected by the weakness of another country that is within the same trade zone or region. Leaving this kind unobserved dynamic feedback effect unaccounted for has been a common feature in the economics literature. However, therefore, accounting for this unobserved heterogeneity in the relationship between external trade benefits and standard of living becomes motivational thrust of the study,

In the light of this problem statement, specifically, the study is guided by the objective of accounting for the unobserved heterogeneity in the relationship between exports earnings and standard of living; total government expenditure and standard of living; trade or economic openness and standard of living, and foreign exchange rate and standard of living. For the tenability of the hypothesis, it is postulated that the unobserved heterogeneity between external trade benefits (exports earnings, total government expenditure, trade or economic openness foreign exchange rate) and standard of living cannot be accounted for.

The report of this research is documented in five outstanding sections. Section one centred on the introductory part. The section two of the study accommodated the review of extant literature; methodological issues were addressed in section three, whereas the section fourconsidered result presentation, analysis and discussion of findings. Lastly, section five concluded and recommended for policy actions.

II. LITERATURE REVIEW

A. *Theoretical Context of the Study*

Mercantilist Trade Theory

The mercantilist trade theory stipulates that the most important way for a nation to become rich and powerful is to export more than its import, so as to be able to improve on the status of the social welfare (development) of its nation. The major theorists here are Williams Petty, Antonia Serra, Jean Bodia, Thomas Mun, Sir Josiah Child, to mention but a few. Usman (2011) expressing his views on the theory notes that Mercantilist provides the earlier idea on foreign trade. The theory is made up of many features that highly considered the welfare of the nation as of prime importance. In this light, Tamuno (2006) points out that Mercantilism as an economic thought adopts the methods of increasing national wealth with the plan of increasing production and export through external trade relations and decreasing domestic consumption via a favourable terms of trade and balance of payment that could be achieved by government restriction of imports and encouragement of exports through commercial policies.

Having seen exports as one of the ways to increase a nation's wealth, mercantilism however did not favour free trade. The reason is that in their Mercantilist tenet the word 'wealth' was fixed. Therefore, a nation's gain from trade is at the expense of its trading partners and for the improvement of the economic status of the nation. In this light, Akpakpan (1999) submits that the major forces in the circumstances that led to the emergent of Mercantilism was the collapse of the feudal community with all its characteristics and the ever desire to grow and increase the importance of cities. This accounts for why the importance of trade (merchant capitalism) now is directed towards the welfare of the entire nation and no longer to the feudal lords. This arouses the interest of Usman (2011) to argue that despite the criticism faced by the foundation of Mercantilism it is still alive today, because new mercantilism now emphasize on employment and increase in gross domestic product (GDP) rather than holding some gold in the treasury. This informs the postulation of the theory that exports are beneficial as jobs are provided domestically and however imports are considered bad as jobs are taken away and transferred to the foreign workers.

From the foregoing theoretical insight, it becomes logical to argue that trade theory of Mercantilism supports the potency of external trade relations (benefits) in addressing some fundamental development issues which are encapsulated in the welfare of a nation. These welfare prepositions include the improvement of the status of the standard of living, reduction in employment rate, increase in production (economic growth - real GDP), achievement of balance of payment equilibrium through the benefits or earnings from external trade relations. These prepositions therefore justify the inclusion of standard of living as a development concern of countries in the world particularly the African.

B. *The Vent-for-Surplus Theory*

Discussion on exports and growth dates back to the time of Adam Smith who argued that exports could function as a mechanism forutilizing surplus resources in the development of the economy, in addition to other dynamic gains it yields. Theventforsurplusthesis,arguesthattheopeningupoftheeconomytointernationaltradeandforeigndirectinvestment provides a vent for the output of surplus resources. This establishes the basis why Smith in his "Wealth of Nations explains the advantages of foreign trade in terms of the "Vent-for-Surplus" theory.

According to this theory trade absorbs the output of unemployed factors, thereby reducing unemployed labour and capital. This is because when the produce of any particular branch of industry in an economy exceeds what the demand of the country requires; the surplus must be sent abroad and exchanged for something for which there is a demand at home (Jhingan, 2008) and conversion of such exchange to foreign earnings.

In a similar vein, Heinz (1992) argues that the foreign trade is thus directly beneficial to a nation since it allows its producers to dispose of some of the superfluous amount of the products in exchange for goods produced abroad that are demanded domestically. This theory therefore submits that vent-for-surplus theory is thus directly beneficial to a nation since it gives value to some of its products which would otherwise be subject to the rule of 'free' goods, to the extent that Smiths' argument is actually based on the constellation that its description appears to be perfectly sensible. Hence it should be concluded that there is a case for which Smith's Vent-for-Surplus doctrine can be given a clear and consistent interpretation (Heinz, 1992).

This therefore establishes a basis for countries to embark on international trade because of its symmetrical benefits that are transmittable and convertible for the development of countries of the world, especially to the undeveloped and developing countries. In line with the foregoing, the diagram below demonstrates the theoretical link between external trade benefits and economic development, which improvement of standard of living is an integral part.

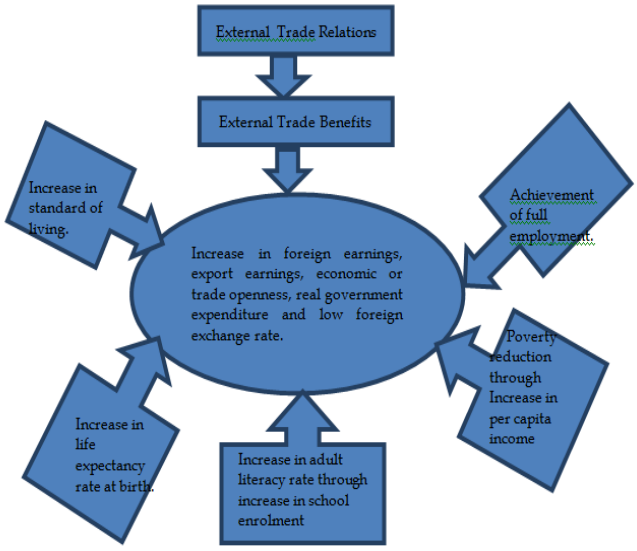

Figure 1: Theoretical Link between External Trade Benefits and Economic Development
Source: Modelledby the Author from various trade theories as posited by Heniz, 1992); Gerald, 1988; Jhingan, 2008; Tamuno, 2006; and Usman (2011).

Figure 3.1 summaries the prescriptions of the theories and the insights gained from the foregoing review of the theoretical fundamentals. It also points out at the specific theories upon which this present study anchors. In this light, therefore this study subscript to the basic arguments found in the trade-oriented theories as noted above with a perspective that endorses the view that nations of the world (whether developed, developing and underdeveloped) benefit more from one another by engaging in trade with a view of reaping the gains of comparative cost and advantage, which are in turn expected to be used by the trading countries to address the fundamental development issues. Such issues, as rayed in this study are prompted by curiosity of knowing what is happening to unemployment, poverty level (expressed as GNI per capita at current US dollar), adult literacy rate, life expectancy and standard of living of the people measured in real GDP per capita of countries in the English Speaking West African region.

This curiosity could be laid to rest by an investigation withthe view to finding how the gains (benefits) from external trade relations (export earnings and other proxies) have been able to address the issue of standard of living. The theoretical link explains, to a substantial extent, that by specializing in goods where countries have a lower opportunity cost, there can be an increase in economic welfare for all countries. Free trade enables countries to specialize in the production of those goods which they have a comparative advantage.

It is against this backdrop of the efficacy and potency of the trade theories reviewed, that this present study leans particularly on the theories of trade that have teleological orientation. These theories include: Mercantilism trade theory and Vent-for-Supply. Essentially, the adoption of these trade theories is informed by the recent performance of the economies of English Speaking West Africa Countries (ESWACs) gives credence to the fact that gains (benefits/export earnings) from external trade relations should affect positively the overall development of the countries as largely suggested by the theories.

C. Review of Empirical Literature

In discussing the association between education and per capita gross national product, Mingat and Tan as quoted by Usman (2011) believe that education is important to a country's social and economic life. In their study, it is revealed that low-income countries generally lag behind, while high-income countries on most measures attain higher educational level. The authors try to establish the reasons for this lag (rich countries advantage in education) by examining the relation between per capita gross national product and several indicators of educational development using a data sample of 125 developing and developed countries in 1993.

The results indicate that *ceteris paribus*, reaching the same coverage in primary education puts twice as heavy a resource burden on the poorest countries as it does on the richest countries. The data illustrated that literacy rate increase with the per capita gross national product from 50 per cent in countries at $200 in per capita gross national product in 1993 to an almost universal literacy by the time per capita gross national product is greater than $10, 000. Relative to the allocation of resources to education, the data analyzed revealed that rich and poor countries allocate the same share

of resources to education. From this conclusion the inference possible from the foregoing is that income per capita may have a greater influence on education attainment than public expenditure.

Baldacci, Guin-Siu, and De Mello (2003) used a covariance structure model for 94 developing countries for the period 1996 to 1998 to evaluate the effectiveness of government expenditure on education. The results of the study signify that public spending on education alone does not improve social outcomes and adult illiteracy and gender inequality worsen social outcomes. They suggest in their study that the removal of these unfavourable social conditions in addition to public spending to accelerate human development will help to normalize the system.

In a similar vein, de Mello and Pisu (2009) estimated the social production function for 5,591 Brazilian municipalities with the use of structural equation models with latent variables. While the results point out that government spending affects education positively as income is the central determinant of education's product. The findings also reveal that empirical analysis should not focus solely on public expenditure on education but should include spending on non-education programmes as they are pertinent to educational outcomes.

As a contribution to the subject of discuss, Orji (2012) studied the dynamics of African trade in historical perspective. His study traces the evolution and potentialities of African trade spanning various stages ranging from crude barter of the communal epoch, the undercurrents of the Trans-Saharan and Trans-Atlantic slave trades and legitimate commerce cum the economic underpinnings of colonial and neo-colonial distributive exchange obvious implications for surplus production, market economy, inter-group relations, class formation and provides a bulwark for erstwhile Eurocentric ideas that portrayed African indigenous economies as banal and barely subsistent. The nexus between external trade and the integration of Africa into the world capitalist system on the one hand exists and creation of dependency and underdevelopment will be delineated.

Similarly, Swaroop in the report of Baldacci,*et. al.,* (2003) surveyed the Caribbean Group for Cooperation in Economic Development countries from 1981 until 1995 and reports that a more in-depth assessment of government resources allocation between primary and tertiary levels of education is necessary to make inferences about the benefit incidence, noting that the probability of obtaining university education is higher for secondary school graduates from high-income than low-income families. This is why educational attainment leads to efficiency in resources utilization resulting in higher productivity and increased income level but market determined allocation may cause a skewness income levels of the populous thereby contributing to further unevenness income distribution.

The probe into the previous studies in the extant literature, that are related to this present research shows that several scholars hold different views about the relationship between external trade benefits and economic development of an economy. The theories so reviewed equally established definite direction of the roles of international trade to the growth and development of an economy. For example, the mercantilist trade theory holds that the most important way for a nation to become rich and powerful is to export more than its import, so as to be able to improve on the status of the general welfare of the people. The absolute cost advantage trade theory also, laying emphasis on export of goods produced more efficiently and improves on those that cannot be produced more efficiently.

This argument sums up the overall concern of the theory which centres on ensuring that the gains from trade are used for the development of the economy through the transmission of the export earnings via government expenditure in the economy. Hence, the transmission mechanism supports the argument that economic benefits accruable from external trade are meant to be injected back into an economy for the establishment of the development-through-trade-model.

From the foregoing theoretical prescriptions, external trade plays somewhat fundamental roles in restructuring the economic and social attributes of countries who engage in it. Thus, the theoretical insight is a justification of the fact that external trade benefits are efficacious and effective in addressing some developmental problems in Africa and beyond, has been the thrust of the empirical studies revealed in the study. However, it is important to point out that no study, as evidenced in the extant literature, has been able to account for the unobserved heterogeneity in the relationship between external trade benefits and standard of living in English speaking West African Countries from 1980 – 2013. This is the observed gap that prompted the study, and consequently, attempt is made to contribute in the filling of the gap.

III. Method of Study

A. *Research Design*

The study adopted ex-post facto research design. This research design which involves collecting and analyzing data from some variables which are already in place (without manipulating any of them) in order to find out how some of them influences or are related to other variables. Lending support to the meaning of ex-post facto, Kpolovie (2010) argues that ex-post factor is a research design used to cover investigations that are done retrospectively (after an effect has occurred) to identify possible cause –and – effect relations between the variables understudied through observation of existing conditions and inquisitively searching back historically for the plausible causal factors. The use of econometric method also supports the adoption of the research design which relies on the historical antecedents of the relationship between external trade benefits and standard of living from 1980 – 2013, which happens to be in retrospect. This is the justification of the adoption of ex-posts facto research design.

B. *Model Specification*

Onuchuku and Adoghor (1999) have argued that in econometric studies, economic theory should be specified in a form of functional relationship. This is because the hypothesis to be modelled or tested is about economic behaviours of the variables considered in the study. Therefore, the effort here is to explain as much as possible about the process underlying our panel data. Our concern is to specify the models with which economic phenomenon is explored empirically.

C. *Analytical Framework*

In considering the relationship between the dependent and independent variables, it is important to state that the analytical framework adopted in this study leans on the Sergio (2014) and Harrigan (1988) with considerable modification of including external trade benefits, standard of living and domesticating the study in English speaking West African countries for a period of 34 years. In the light of this, the functional (true or population) models or relationship between the dependent and explanatory variables is cast below.

First and foremost, the models were built in line with balance panel data structure aggregated data. Based on this, we proceeded to specify the functional relationship of the panel data regression using pool data technique; hence, the panel data regression models are specified in a functional relationship as follows:

The Functional Relationship

STL = f(EXE, TOP, TGE, FER) (1)

Based on the functional relationship, the econometric forms of the models are specified as follows:

lnSTLit = k0+ k1lnEXEit + k2lnTOPit + k3lnTGE + k4FERit + Uit (2)

In equations 1 to 2,

i = 1, 2, 3, 4, 5 (The five English speaking West African countries – The Gambia (code 1), Ghana (code 2), Liberia (code 3), Nigeria (code 4) and Sierra Leone (code 5).

t = 1, 2, 3, 4, 5 ……. 34 = 170 (5 x 34) observations

Where:

Subscript i (ith subject) and t denote the cross section of the five countries and time period for the variables (34 years) respectively. This therefore suggests that the data were pooled together to produce a total observation of 170, with different constant regression coefficients for all the five countries. Where:

STL = Standard of Living (measured in terms of real GDP per capita – PPP$)

EXE = Export Earnings

TOP = Degree of Trade Openness

TGE= Total Government Expenditure

FER = Foreign Exchange Rate (expressed as official exchange rate)

U = Stochastic Term. The error term is assumed to be different over time and countries.

Equations 1 – 2; $k_1 – k_4$, are the true slope coefficients of the explanatory variables (export earnings, total government expenditure, trade openness and foreign exchange rate) for the five countries. They are assumed to be constant across time (34 years) and space (five countries). Also, they are the estimated parameter which measured the rate of change in the dependent variables caused by the explanatory variables.

Specifically: $k_1$is the true slope coefficients of export earnings (EXE); $k_2$is the true slope coefficients of degree of trade openness (TOP); k_3, is the true slope coefficients of total government expenditure (TGE) and k_4, is the true slope coefficients of foreign exchange rate (FER).

D. *Apriori Expectation*

From the theoretical prescriptions, economic trade theories suggest that external trade is an engine of economic growth and propeller of economic development. Therefore, it is expected that the external trade benefits proxied by export earnings, trade openness and total government expenditure should be positively related with standard of living (real gross domestic product per capita)(Iqbal and Zahid, 1998).

Moreso, k_0 (constant in the model) is expected to be positive because there are other factors that could necessitate economic development aside the ones captured in the model as explanatory variables.k_1 is the true slope coefficients of export earnings, expected to be positive because in macroeconomic theory, export earnings are income that flows into a country.k_2 is the true slope coefficients of economic or trade openness, which is expected to be positive or negative depending on the values of exports, imports and gross domestic product (GDP). If the values of export and GDP outweigh the value of import then, trade openness would affect economic development positively, and if the values of import, GDP outweigh the value of export then, trade openness would affect economic development negatively.

$k_3$is the true slope coefficients of total government expenditure, expected to be positive because in macroeconomic theory increase in a country's earnings increase total government revenue and spur total government expenditure through a transmission mechanism. And k_4 is the true slope coefficients of foreign exchange rate. In this sense, macroeconomic theory holds it that if it increases, the worth of the local currency is expected to decrease, this will bring about inflation and eventually reduces real gross domestic products and vice versa; hence this will lie between 0 and 1.

This study employed secondary data on time series and cross-sectional bases for the five English Speaking West African Countries (ESWACs). Data on the following variables were required:export earnings;volumes of exports and imports;changes in real economic growth per capita of the countries;foreign exchange rate;total government expenditure; andtrade openness was derived from data on export, import and GDPfrom the five countries spanning from 1980 - 2013.

E. *Methods of Data Analysis*

After structuring the data in panels using pool data technique, we adopted an up-to-date method known as 2nd Generation Panel Data Econometric using the estimators of CIPS Unit

Root Test, ECM Panel Co-integration, Pedorni Dynamic Ordinary Least Square (PDOLS) and Fully Modified Ordinary Least Square (FMOLS), Common Correlation Effects Mean Group (CCEMG), Augmented Mean Group (AMG), Average Correlation Coefficient (ACC) as proposed by Pedroni (2007), Westerlund (2007) and Pesaran (2006). Before these main tests, descriptive and correlation matrix statistical tests were diagnostically conducted and the result were reported before the results of the main tests.

F. Descriptions and Justification of the Method of Data Analysis (2nd Panel Data Econometric Method)

The 'power' of a test lies in its ability to reject the null when it is false; has the probability of accepting the null when it is actually true (Eberhardt, 2011). However, in estimating time series properties in panel data structure, the choice of specification usually arises from Levin, Lin and Chu (2002) and in Pesaran and Shin (2003) for the combination of information from time series and cross-sectional data so as to be able to have an improved power of test and consequently t-ratio. In panel setting, Babayemi, Onwuka, Singh and James (2013) note that a number of tests have been developed in the literature for testing the presence of unit root and stationarity.

Most of these tests are LLC (2002), IPS (2003) which have been adjudged to be extensions of the Dickey Fuller and augment Dickey Fuller tests and have greatly helped in solving the problems in panel data procedures (Babayemi, *et al;* 2013). In view of this, it is however important to point out that these tests have some deficiencies in the aspect of assuring that the null hypothesis of the time series are non-stationary against the alternative hypothesis that all panel are stationary (Celik, Aslannoglu and Uzun, 2010). This is because the non-stationarity leads to failure to reject the null of unit root at any significant level.

At this point, it is important to keep in mind that all these methods have been classified as the 1st generation panel unit root test. However, our study did not adopt any of them, because they are characterized with the restrictive assumption that there is cross sectional independence which suggests the problem of homoscadasticity thereby disregarding the presence of cross sectional dependency (heterogeneity). Also, the 1st generation estimators are built on the assumption that unobserved disturbances are independently distributed among the cross section. This assumption is very restrictive in nature; hence economic data are unable to meet such assumption. Therefore, if the 1st generation estimators are adopted, our study estimates will be spurious, bias and inconsistent. This is because of the inherent presence of unobserved heterogeneity (common factors) such as common shocks, global shocks, international spill-over effects, dynamic feedback effects, recession, business cycle shocks, global financial crisis, imported inflation, to mention a few. These common factors are hardly captured in applied panel data works with the adoption of classical OLS and 1st generation panel data econometric method; hence the adoption of the 2nd generation panel data econometric method to account for unobserved heterogeneity in the relationship between external trade benefits and standard of living.

The method ofunit root test proposed by Pesaran (2007) is Cross sectional augmented form of Im, Pesaran and Shin (CIPS) test. The CIPS panel data unit root test represents the cross-sectional augment of IPS. In this context, Celik, *et al.,* (2010) argues that CIPS test is different from LLC and IPS (1st generation estimators) tests, as it allows for cross sectional dependence and has unit root in the null hypothesis. Also, Hossfeld (2010) notes that the difference between the 1st and 2nd generation tests is the ability to account for cross-sectional dependencies while the former does not (or only to a very limited extent by including common time dummies in the test regressions). Others include ECM Panel Co-integration, Pedorni Dynamic Ordinary Least Square (PDOLS), Fully Modified Ordinary Least Square (FMOLS), Common Correlation Effects Mean Group (CCEMG), Augmented Mean Group (AMG) and Average Correlation Coefficient (ACC).

2nd Generation Test Model	**Statistic**	**Value Panel**	**Z-value (Group)**
AlaPedroni (2004)	Panel v	-0.8086	0.0000
	Panel rho	1.568	1.967
Within	Panel PP	1.06	1.174
Statistics:	Panel adf	1.174	1.328
Between	Group rho	0.1561	0.047
Statistics:	Group pp	-0.1578	12.52
	Group adf	-0.7806	3.896

IV. Presentation ofA-Posteriori (Empirical)Results

It is assumed that increase in external trade benefits did not significantly lead to increase in standard of living (real GDP per capita) in ESWACs within the period of study. The implication of this null hypothesis is that external trade benefits do not lead to long run equilibrium relation with the standard of living; hence suggesting non-existence of co-integration between the two variables.

In an attempt to address this issue, the panel data econometric equation is presented thus: $InSTR_{it} = k_0 + k_1 InEXE_{it} + k_2 InTOP_{it} + k_3 InTGE_{it} + k_4 FER_{it} + U_{it}$.4.1

Table 4.1: Result of the panel co-integration based Westerlund (2007) test for standard of living equation **Standard of Living Model (Equation 4.1)**

Results for H0: no co-integration
With 5 series and 4 covariates
Average AIC selected lag length: 1.2
Average AIC selected lead length: .6

Statistics	Value	Z-value	P-value
Gt	-1.455	1.139	0.873
Ga	-2.160	2.427	0.992
Pt	-0.858	2.176	0.985
Pa	-1.549	1.396	0.919

Note: Without constant and constant and trend terms.

Source: An extract from the result output (see Appendix D – Result Output processed with Stata Version 12)

Table 4.1: reports the result of the western land (2007) test conducted on null hypothesis of no co-integration. The result reveals that the P-values of the group (G_t and G_a) and panel (P_t and P_a) statistics are 0.873, 0.992, 0.985 and 0.919 respectively. From this empirical evidence, it is established that the *p-values* of the four significant at 5% level of significant. Hence, suggesting that the null hypothesis of no co-integration should not be rejected. This means that there is co-integrating relation between the dependent and independent variable. In order to confirm this test, Pedroni's (2004) test is conducted and reported below.

Table 4.2: Result of the panel co-integration based Pedroni (2004) test for standard of living equation.
Note: *Equation 4.5 is the conventional econometric specifications for panel co-integration.*
The result of the Perodni's test is time demean. Time demean is used to mitigate the impact of cross-sectional dependence. It is a transformational technique in unit root used to subtract the cross-sectional averages for each period from the original data.
Source: An extract from the result output (See Appendix D – Result Output processed with Stata Version 12)

The result of the panel co-integration based Pedroni (2007) test is presented in table 4.2 for standard of living equation. The result of the test reveals that the seven statistics (four within and three between statistics) have panel values of -0.8086, 1.568, 1.06, 1.174, 0.1561, -0.1578 and -0.7806 respectively. From the result the panel values of $panel_{rho}$, $panel_{pp}$, $panel_{adf}$ and $group_{rho}$ and significant of 0.05 level of significant while $panel_{v}$, $group_{pp}$ and $group_{adf}$ are not significant at 5% level of significance. This is because those who are significant have their panel values greater than the default 5% level of significant. Thus, out of the seven statistics of Pedroni four are in favour of the specification; hence we should not reject the null hypothesis of no co-integration between the dependent and independent variable. This result supports that of Westerlund, therefore it means that increase in external trade does not significantly lead to increase in standard living in ESWACs from 1980 to 2013.

Having established the presence of no co-integrating relationship between the two variables (external trade benefits and standard living), it therefore suggests that there is the presence of unobserved heterogeneity in the data outliers; hence the need to proceed to report the result of the test on the coefficient estimation of the no-co-integrating relationship, so as to be able to account for the deviations in the variables. Thus this is contained in the table below.

Table 4.3: Result of DOLS and FMOLS test for coefficient estimation of co-integrating relationship long-run equilibrium for standard of living equation

DOLS Hom.Panel data Coint. Estimation results Number of obs= 150
Group variable: country id
Number of groups = 5
Wald chi2(4) = 65.22
Obs per group: min = 34
Prob> chi2 = 0.000 avg = 34
max = 34
R-squared = 0.4635
Adj R-squared = -0.2568

Variable	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
Lnexe	.156648	.0525366	2.98	0.003	.0536782	.2596178
lntge	.268798	.0594279	4.52	0.000	.1523214	.3852745
fer	-.0000635	.0001557	-0.41	0.683	-.0003686	.0002416
lntop	-.4703505	.0681333	-6.90	0.000	-.6038892	-.3368117

Source: An extract from the result output (See Appendix D – Result Output processed with Stata Version 12)

The result of the dynamic OLS and Fully Modified OLS (FMOLS) conducted in the manner of Pedroni (2004) is reported in table 4.33. The result reveals that the coefficients of $k_{1it,}$ k_{3it} and k_{4it} for the parameters of EXE, TGE and FER have the right sign, while only the coefficient (k_{1it}) for TOP has a negative sign. This means that the signs of EXE, TGE and FER are consistent with fundamental economic theory by keeping a positive (for EXE and TGE) and negative (for FER) relationship with standard of living respectively. Aside the signs of the coefficients, the panel values of EXE, TGE and TOP are less than 5% default level of significance while that of FER is greater than 5% of significance. This means that EXE, TGE and TOP and significant while that of FER is not statistically significant. This result confirms that the coefficients of some of the parameters are significant. This strongly suggests that we should reject the null hypothesis, therefore there is significant and positive relationship between external trade benefits and standard of living expressed in terms of real GDP per capita of purchasing power parity measured in US dollars (PPP$) in ESWACs from 1980 to 2013.

This by implication means that any increase in external earnings, total government expenditures and trade openness and decrease in foreign exchange rate should transmit to

increase in standard of living in terms of real GDP per capita of purchasing power parity. Based on the result, the null hypothesis of no co-integration should not be rejected; we proceed to test for the error correction, for the purpose of accounting for the unobservedheterogeneity in the study as specified by Westerlund (2007).

Table 4.4: Mean group panel co-integration error correction model without a constant and a constant and trends for standard of living equation.

In view of equation five of our study, he re-parameterized panel co-integration error correction model is specified thus:

$\Delta InSTL_{it} = h_0^{STL} + \lambda^{STL}(k_i InEXE_{i,t-1}^{STL} - k_2^{STL} INTOP_{i,t-i} - K_3^{STL} INTGE_{i,t-1} - K^{STL}{}_3 INTGE_{1,t-1} - K_4^{STL} FER_{i,t-1}) + \sum_{j=i}^{n} \sigma^{STL} \Delta STL_{i,t-1} + \sum_{j=1}^{n} \emptyset^{STL} \Delta EXE_{+i,t-j} + \sum_{j=i}^{n} \delta^{STL} \Delta TOP_{i,t-j} + \sum_{j=i}^{k} \varphi^{STL} \Delta TGE_{t,t-j} \sum_{j=i}^{k} \infty^{STL} \Delta FER_{i,\,t-j} + U_{ij}$

Mean-group error-correction model

Short run coefficients apart from the error-correction term are omitted as lag and lengths might differ between cross-sectional units

Variable	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
lnexe |					
L1.	-.0716233	.0535075	-1.34	0.181	-.176496 .0332495
lntop					
L1.	.0612816	.0439979	1.39	0.164	-.0249527 .147516
lntge |					
L1.	.0889389	.0366611	2.43	0.015	.0170844 .1607934
fer |					
L1.	.0003525	.0010269	0.34	0.731	-.0016603 .0023652
lnstl |					
L1.	-.1874044	.064799	-2.89	0.004	-.3144082 -.0604006

Estimated long-run relationship and short run adjustment

Variable	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
ec |					
lnexe	-.1934851	.3430935	-0.56	0.573	-.865936 .4789658
lntop	.2432864	.1559613	1.56	0.119	-.0623921 .5489648
lntge	.409304	.1085013	3.77	0.000	.1966454 .6219626
fer	.0056806	.0150675	0.38	0.706	-.0238511 .0352124
SR |					
_ec	-.1874044	.064799	-2.89	0.004	-.3144082 -.0604006

Source: An extract from the result output (See Appendix D – Result Output processed with Stata Version 12)

The result of the estimated long-run relationship and short run adjustment as reported in table 4.4 shows that the value of error correction (EG) model is -0.1874044. The result appears with the expected negative sign with suggests that the specification above has the tendency to correct the error that could be necessitated by global shocks. The value means that the adjustment of the model to the original equilibrium at the short run is about 19% possible.

The value of the error correction (EC) model suggests that the speed of adjustment of the study variables to the point of long rum equilibrium is low. This implies that the inherent global shocks that are modelled as common factor are asserting much influence on the explanatory variables, thereby resulting to a comparatively low standard of living in English speaking West African countries from 1980 to 2013. In view of this result, we proceed to conduct and report the testing common correlation effect using mean group estimator. The result of the test is reported below.

Table 4.5: Common correlation effects mean group estimation for standard of living equation

Pesaran (2006) Common Correlated Effects Mean Group estimator
All coefficients present represent averages across groups (countryid)
Coefficient averages computed as outlier-robust means (using rreg)
Mean Group type estimation Number of obs= 170
Group variable: countryid Number of groups = 5
Obs per group: min = 34
avg = 34.0
max = 34
Wald chi2(4) = 1.22
Prob> chi2 =0.8746

lnstl	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
lnexe	.0270532	.0658219	0.41	0.681	-.1019553	.1560617
lntop	-.0947447	.2030733	-0.47	0.641	-.492761	.3032717
lntge	.0196223	.0381699	0.51	0.607	-.0551892	.0944339
fer	-.000434	.0005746	-0.76	0.450	-.0015602	.0006921
_cons	5.688722	1.540616	3.69	0.000	2.669171	8.708273

Root Mean Squared Error (sigma): 0.1767

Source: An extract from the result output (See Appendix D – Result Output processed with Stata Version 12)

Table 4.6: Augmented correlation coefficients of residuals services test for standard of living equation

Average correlation coefficients &Pesaran (2004) CD test
Residual series tested: cce_res5
Group variable: countryid
Number of groups: 5
Average # of observations: 42.50
Panel is: unbalanced

Variable	CD-test	p-value	corr	abs(corr)
cce_res5	-1.55	0.122	-0.084	0.452

Notes: *Under the null hypothesis of cross-section independence CD ~ N(0,1)*

Source: An extract from the result output (See Appendix D – Result Output processed with Stata Version 12)

The result of the common correlation effects was conducted with means group estimator in the manner of Pesaran (2004) for standard of living equation as reported in table 4.6. From the result the values of constant and root mean squared error and 5.688722 and 0.1767 which are statistically significant at 5% default alpha level. This means that the result of the CCEMA favours our specification that there is the absence of cross sectional correlation across the series in the equation. This means that our estimate or specification sufficiently accounts for the possible effect of the common factor in forms of imported inflation, international spillover effects, recession, dynamic feedback effect and random feedback effect in the estimate or model of standard of living equation for ESWACs.

Further, the result of the augmented correlation coefficients of Residual series test for standard of living equation shows that the p-value of coefficient correlation effect (CCE) is -1.55 CD-Tests meaning that CCE is statistically significant at default 5% level of significant. This is because -1.55 (CD test) < 0.05, thereby suggesting the null hypothesis of cross sectional independence in the series is strongly rejected, therefore suggesting that absence of unobservable independence is not obtainable in the sires. This strongly suggests that is noticeable preserve of cross sectional dependence in the series across the countries (*i*) within 34 years (*t*) in ESWACs.

A. Discussion of Empirical Results

The relationship between standard of living and external trade benefits in English speaking West AfricanCountries (ESWACs)

This study made empirical attempt to account for unobserved heterogeneity in the relationship between external trade benefit (expressed in terms of external earnings (EXE), total government expenditure (TGE) and trade openness (TOP)); and thestandard of living, expressed in real GDP per capita purchasing power parity in US dollar, in English Speaking West African Countries from 1980 to 2013.

The results presented in table 4.1 to 4.6, showcases how the objective of the study is achieved by testing the null hypothesis that increase in external trade benefits did not significantly lead to increase in standard of living, expressed in real GDP per capita purchasing power parity in US dollar, in English Speaking West African Countries from 1980 to 2013. As documented in table 4.1, the null hypothesis of no co-integration is not rejected. Hence suggesting that increase in external trade benefits was found to be significant in improving the standard of living in English Speaking West African Countries from 1980 to 2013.Particularly, table 4.2 reveals that the speed of adjustment of standard of living in keeping a co-integrating relationship with external trade benefits is about 19% in ESWACs, and changes in standard of living (STL) is said to have been predicted approximately by 16%, 27%, 0% and 47% variability in EXE, TGE, FER and TOP in English Speaking West African countries 1980 to 2013.Fluctuation in standard of living is approximately predicted by 16, 27, 0 and 47 percentage variability in export earnings, total government expenditures, foreign exchange rate and degree of trade openness in English Speaking West African Countries (ESWACs) from 1980 to 2013, respectively.

Implying that the purchasing power parity in US dollar available at the disposal of the citizens of Gambia, Ghana, Liberia, Nigeria and Sierra Leone is not high, and what causes changes in the purchasing power parity can be attributed to 16%, 27%, 0% and 47% variations in external trade, total government expenditure, foreign exchange trade and degree of trade openness respectively. Also the regressors (EXE, TGE, TOP and FER) have about 19% capacity to be able to adjust standard of living to return to long-run equilibrium position but have with a weak relationship.

The implication of this result is that income distribution which is about the way the output of an economy is shared among the members of the society is partially done. This is because a large majority of the population size of these countries get small (minuet) share of the national income. This suggests the existence of a very wide gap between the rich and the poor. This reveals the fact that the citizens of these countries will have to spend much in the purchase of good and services in the international market.

The implication of our result is that ESWACs are characterized with relative good quality of life. In a narrow context, quality of life measures the extent and how well an economy has really affected the life of each member of the society. According to Akpakan and Umoh (1999) quality of life is usually determined in terms of the quality and quantity of good each person has to eat (measured by intake of calories per day). Lending support to this, the World Health Organization (WHO) points out quality of life equally entails the intake of minimum calories of 2,600 per day, access to health care services, access to clean and safe water, literacy level, and life expectancy rate at birth, among others. They also say that these variables are often used to computer the Human Development Index (HDI). This also shows that the external trade relations between ESWACs and the rest of the world give a value of their superfluities which may satisfy a part of the citizens' wants and increase their enjoyments by improving their standard of living.

The result agrees with the theoretical expectation of the study. Based on *apriori*, the theories that invoke purchasing power parity as a technique used to determine the relatives value of different currencies is expected to increase, if the countries engage, at the same value, in external trade, asserts that increase in the benefits (gains) of external trade should through a functional mechanism, be transmitted to the economy so that people will earn income that would enable them to purchase goods and services.

Consequently, the result of our study also agrees with that of Okowa (1996) who reported that the governments of the developed countries obviously have more resources per capita to devote to the standard of living of their citizens than that of the government of the underdeveloped countries. In line with this, the base line panel data structure reveals remarkable differentials among ESWACs. The range of per capita income expressed in terms of standard of living is 5296.16 USD with the maximum and minimum values of 5708.180 and 142.02 respectively. Also the coefficient of variation for the panel variable of standard of living (STL) indicates and supports the presence of huge differentials among the ESWACs. These differentials indicate the presence of heterogeneity in the relationship between external trade benefits and standard of living.

The heterogeneity that are unobserved could inform of dependence among the countries, indicating that what could cause a low standard of living in one country is transmittable to other countries in the same region and beyond. This possibility (transmission of unobserved heterogeneity) necessitated the Pesaran (2004) CD test reported in table 4.4 where we strongly reject the null hypothesis of no cross –sectional independency. Therefore the standard of living measured in terms of purchasing power party shows that the ratio of the number of units of ESWACs' currencies needed to purchase the same quantity of a specific good and service in international market in relation to one unit of US dollar is marginally high. Therefore, external trade benefits (expressed in terms of export earnings, total government expenditure, degree of trade openness) are found not to be significant in improving the standard of living (expressed in terms of real GDP per capita purchasing power parity of USD) in English speaking West African Countries within the period of study.

V. Concluding Remarks, Implicationsand Recommendations

This present study empirically examined the unobserved heterogeneity in the relationship between external trade benefits and standard of living in English Speaking West African Countries from 1980 to 2013. The study measured external trade benefits on the bases of export earnings (EXE), total government expenditures (TGE), degree of trade openness (TOP) and foreign exchange rate (FER) as a control, while standard of living is measured in terms of real GDP per capita in purchasing power parity of US dollar. Also this study employs the recently developed second (2^{nd}) generation panel data econometric methods of unit root test, co-integration, dynamic OLS, fully modified OLS, common correlated effects mean group, augmented mean group, average correlation coefficients estimators as proposed by Pedroni (2007), Westerlund (2004) and Pesaran (2006).

By the application of these estimators, the results of the unit root test reveal that EXE, TOP, TGE, UNR, ALR and LER are stationary while that of FER, POL and STL and non-stationary using CIPS estimator. The co-integration test result shows that external trade benefits (ETB) was not found to be slightly significant in improving the standard of living in ESWACs and there is no co-integrating relation between external trade benefits and standard of living within the period of study. This implies that the unobserved heterogeneity in the data outliers could be accounted for through the speed of adjustment to the tune of 19% as revealed by the values of the error correction models.

The cross sectional dependence test reveals that the common factors stress the relevance of dynamic feedback effects or international business cycle shocks or imported inflation or spillover effect, in explaining long run equilibrium relationship in cross sectional studies, as we have in the case of accounting for the unobserved heterogeneity in the relationship between external trade benefits and standard of living in English Speaking West African Countries from 1980 - 2013.

Nevertheless, the study also recognizes the presence of heterogeneity, cross sectional dependence and differentials in the series among the ESWACs; hence our findings are related to the extant literature on external trade but establish a balance between the optimistic and pessimistic trade theories or schools of thought in explaining the impact of external trade benefits on economic development in West African countries, using standard of living a *stick of measurement*. This means that external trade partially serve as an engine of growth and propeller of development in developing countries, as evidenced in the results of the study.

Finally, after summing up our findings, we submit that the unobserved heterogeneity in the relationship between external trade benefits and standard of living has marginally accounted for. Therefore, based on the findings, the study concludes that the impact of external trade benefits on standard of living economic development is a trivial matter because external trade benefits have not comprehensively and significantly augmented the standard of living in English speaking West African countries within the period of study.

A. *Implications of the Findings*

It is theoretically expected that gains or economic benefits from external trade should be used to look after the general welfare of citizens by augmenting the status of their standard of living has suffered a theoretical failure. But statistically speaking, it is revealed that external trade benefits could not increase standard of living in terms of real GDP per capita in ESWACs, within the period of investigation.

Essentially, the methodological implication of the use of 2^{nd} generation panel data econometric method to account for unobserved heterogeneity in the relationship between external trade benefits and standard of living is significant in accounting for the inherent cross sectonal dependency and correctional residuals that are transmittable across entities that belong in the same region, as in the case of ESWACs. In line with this, the findings of this study revealed that cross sectional dependency was adequately accounted for, and the effects of dynamic spill over or the heterogeneous residuals known as common correlation effects of mean group estimation for the dependent variable (standard of living) that gave rise to the balance the data in a panel data regression equation, so that it could appeal to the pointing out the unobserved heterogeneity in the study.

Within an economic policy framework, the implication of this finding is that total government expenditure has not been sufficiently made to the extent that it will stimulate economic activities that would great opportunities for the citizens to engage in activities that will increase growth in real GDP, from which export activities will be encouraged and this will consequently increase the degree of trade openness; hence make the countries relevant in the international market. To this end the currencies of these countries will become much more relevant in the foreign exchange market, and such they (currencies) measure up with other currencies.

B. *Recommendations for Policy Actions*

In line with the policy implication of the findings, the following recommendations are advanced for proper policy measures to be taken in order to improve the status of the standard of living via the benefits accruable from external trade in English Speaking West African Countries.

The government of ESWACS should encourage and support the real sector of the respective countries through subsidies and investment in social and physical infrastructure so as to encourage the participation of private individuals in the production of goods and services. This will have directly and significantly impact on unemployment and poverty reduction.

Policy implication on the result of co-integration is that more credible expansionary fiscal policy should be pursued as this will help to pump more money into circulation with the aim of creating and expanding employment opportunities that would be able to reduce poverty in the region.

Massive investment in critical infrastructure is essential to encourage growth, unlock productivecapacityand induce structural transformation. This will encourage reduction in unemployment rate through an export supply response in sectors such as agriculture, manufacturing and mining. In achieving this, growthcorridorsandregional hubscanbeuseful strategies in spurring economic activities and inspiring diversification across the region.

Cut in public investment spending on agriculture and industrial sectors should be avoided so that the countries will be encouraged to produce locally and also export. This gesture in turn will increase the volume of export and consequently will not undermine the long run efficacy of external trade benefits.
Conscious efforts should be made by government to fine-tune the various indices of external trade benefits in order to exert some influence that could stimulate economic development.

There is basic need for West African Institute for Financial and Economic Management (WAIFEM) to harmonize their bilateral organizations and relationships so as to be able to have a common ground for the production of exportable good.

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