



TRADE OPENNESS AND POVERTY IN THE WEST AFRICAN SUB REGION

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Abstract

The problem of poverty which is the situation of not having adequate income to meet the daily basic needs such as food, shelter and clothing is a major socio economic problem in West African Sub-region. The study examined trade openness and poverty in the West African sub region and approach the problem in the macroeconomic perspective by examining it in the conceptual framework of the immiserising growth theory using data covering the period, 2010-2019. In the analysis, the per capita income, export, exchange rate and inflation data were used as fundamental variables. The Hausman test was conducted and the random effect regression model was appropriately used. According to the results obtained, our apriori expectation was confirmed and results were statistically significant. The paper recommends that standardized manufactured goods be given high priority and included in their export to make them competitive in the international market.

Keywords: *Poverty, Exchange rate, Inflation, Immiserising Growth, Per capital income*

Introduction

Economic growth increase and sustaining the production capacity of economy means producing more goods and services over time. Production capacity of a country's economy increases the opportunity to produce more goods and services in time as well as technological advancements. This increase in the production is brought about by increase in investments and export of goods produced, this can lead to a decline in unemployment as the

increase in the production positively affect the national income by increasing the income level of the people.

However, the immiserising growth theory which was propounded by Jagdish Bhagwati claim that benefits of the export would reduce the welfare of the citizens of a country arising from a decline in the terms of trade. This concept explained that an increase in the level of output in a growing economy welfare effect may even be positive but the deterioration in the terms of trade may be so large that it more than offsets the positive welfare effect. A situation of this can result in a net decline in the welfare of the citizens of the nation. Hence, it becomes worst off than before and resulting in the country becoming poorer in respect of welfare. Sawada (2012) investigate the empirical reality of immiserising growth using revealed preference theory to measure welfare and evaluate the welfare movement of individual countries over time. Therefore, to understand the effects of the shift in world supply resulting from economic growth, he opined that we should study those shifts in relation to world demand just like the world supply changes as a result of foreign aids, war reparation, and other international transfers of income. In the case of import tariffs and export subsidies, shift in world supply and demand occur simultaneously and affect the international terms of trade. He concluded that to study economic growth from the perspective of supply sided only as an expanding economy should be analyzed with respect to the world demand conditions. Once that condition is taken into account, Immiserising growth may not seem so likely for developing countries. Growth at home should be good when a country can expand its production capacity and hence, sell more of its products to the world market. Bali moune-Luiz and Ndikumana (2007), explore the argument that one of the causes of the limited growth effects on trade openness in Africa may be the weakness of institutions and export diversification.

Economic growth may cause the deterioration of international terms of trade under certain circumstances. National economy will be damaged, if the loss as a result of this deterioration is greater than the yield of the economic growth. However, for this not to happen, economy of the country should be big enough to influence the world economy. Romer (1989), using endogenous growth model demonstrated that increased trade openness induces marginal returns to capital investments. Unfortunately, unfavorable international terms of trade of the country due to the increase in production lead to impoverishment especially to developing countries such as the West

Africa sub region. Policies to reduce inequalities in income distribution, increase social welfare to low income families, and socio-economic recoveries in such areas as education and health are made by them to reduce poverty.

The West African sub region external trade has not impacted on the lives of the citizens thus making the standard of living of the people to fall and other negative consequences despite the increase in export trade with the rest of the world. The trade consists majorly of primary product which price is vulnerable to price shock in the international market compared with the export of developed countries that are majorly on manufactured product with high prices. This has made the terms of trade to always be against the developing countries with deficit balance of payments.

The objective of this study is to examine how the West African sub region export impact on the welfare of citizen using the per capita income as a measure of welfare of the people and to provide policy recommendation drawn from the findings. Within this context, this study will primarily focus on trade and poverty and will examined their relationship within a theoretical framework of the immiserising theory which will be analyzed using annual data covering 2006-2016. The paper is structured into introduction, literature review, theoretical and conceptual framework, research methodology and model specification followed by regression result and analysis. The paper concludes with conclusion and recommendations.

Literature Review

Jagdish Bhagwati in 1958 developed the foundation for immiserising growth theory, and revealed empirically negative impact of foreign trade on international terms of trade. Also, Johnson (2013) opined that increase in the international terms of trade have a negative effect on economic growth. Further studies on the concept of immiserising growth however focus on foreign trade, and correspondingly on underdeveloped countries with low income. Kandiero and Chitiga (2003) investigate the impact of openness to trade on the Foreign Direct Investment (FDI) inflow to Africa. In addition to economic wide trade openness, they specifically analyzed the impact of FDI on openness and manufactured goods, primary commodities and services. The empirical result revealed that FDI to GDP ratio responds well to increased trade openness and that both stimulate higher economic growth rates. Alston and Martin (2000) states in their study that technological

advancement in the agricultural sector would reduce national welfare by causing a negative rate of return, and accordingly lead to immiserising growth.

Chow (1987) examined the relationship between export and domestic manufacturing industrial production through Sims causality test conducted for Argentina, Brazil, and Hong Kong, Israel, Korea, Mexico, Taiwan and Singapore. Although, he could not find any causal relationship between the variables for Argentina, he found out that exportation leads to a speed up in the manufacturing industry for Mexico and that there is a bidirectional causality relationship between variables for other countries. Levine and Renelt (1992), shows that the direct effect of openness on growth is not robust as he argued that openness only has an indirect effect on growth through higher investment. This shows that higher receipt from generated revenue will be directed to investment which may not generate much inflow to impact on the citizens. Todorova (2010) showed that terms of trade would get worsened and economic development would have an impoverishing effect mainly due to economic growth. Nidugala (2000) stated that manufacturing exportation has a crucial impact on economic growth for India, while basic commodity group has no impact on the growth. Balasubramanyam, Salisu and Sapsford (1996), using the endogenous growth model in a cross-sectional analysis of 46 countries examined the relationship between trade openness, investment and economic growth. The result show that the growth enhancing effects of FDI are stronger in countries that adopted export oriented policies than those who followed an import substitution policy. However, if export based growth has occurred domestically, so that our economy now exports more of its competitive product, growth would rarely be immiserising.

Ahmad (2001) examined the causality relationship between exportation and economic growth through error correction model, Granger causality, co integration, vector auto regression (VAR), action-reaction and the variance decomposition methods. His study results show that export-oriented model is supported in both developing and developed countries. Hamada and Iwata (2014) opined that large increase in the price of imported oil can also lead to immiserising growth. Sawada (2012) recognizes that immiserising growth must involve some form of sub optimality and arises in the presence of a sufficiently large distortion in the economy. Thus, immiserising growth could be avoided by removing the distortion. He investigated the empirical

reality of immiserising growth using revealed preference theory to measure welfare and evaluates welfare movements of individual countries over time. Michaely (1977), Feder (1982) and Kavoussi (1984) claim in their study that increases in exportation impact the growth positively by improving manufacturing technology, labour quality and competitive management structure. Bahmani-Oskooee and Domac (1995) examined the relationship between import and export of Turkey with annual data through Engle-Granger co integration analysis. Long term relationship between exports and imports lost its importance when raw material imports variance is extracted from the analysis. They opined that reducing the dependence on imported raw materials was suggested in order for export promotion policies to be successful.

Bhagwati (1958) in discussing the conditions under which immiserising growth should occur, he assume a two-country model where one country experiences growth whereas the rest of the world (the other country) does not. He concludes that the effect of economic growth will be positive if the terms of trade will not move against the growing country enough to deprive it of all gain from growth.

Theoretical and Conceptual Framework

Immiserising Growth Theory

Many economists argued that there is a strong relationship between liberalization of foreign trade and economic growth. It is also claim that international terms of trade of developing countries who prefer export-oriented growth may get worse than they used to be. This situation is known as immiserising growth among economists. Indian economist Jagdish Bhagwati explains the conditions in which growth would lead to impoverishment and call this kind of growth as immiserising growth. An economic growth which will take place with the increase in production will positively affect the welfare, but negative effect of this increase on international terms of trade will also reduce the welfare. In the immiserising growth theory, a country is believed to have an economically poorer condition with the net effect of the growth on the country welfare as a result of these two opposite effect. Johnson (2013) produced another example of immiserising growth according to which a small open economy facing an exogenously imposed tariff could become worse off as a result of economic expansion.

Immiserising growth theory can be expressed more clearly with the graph below.

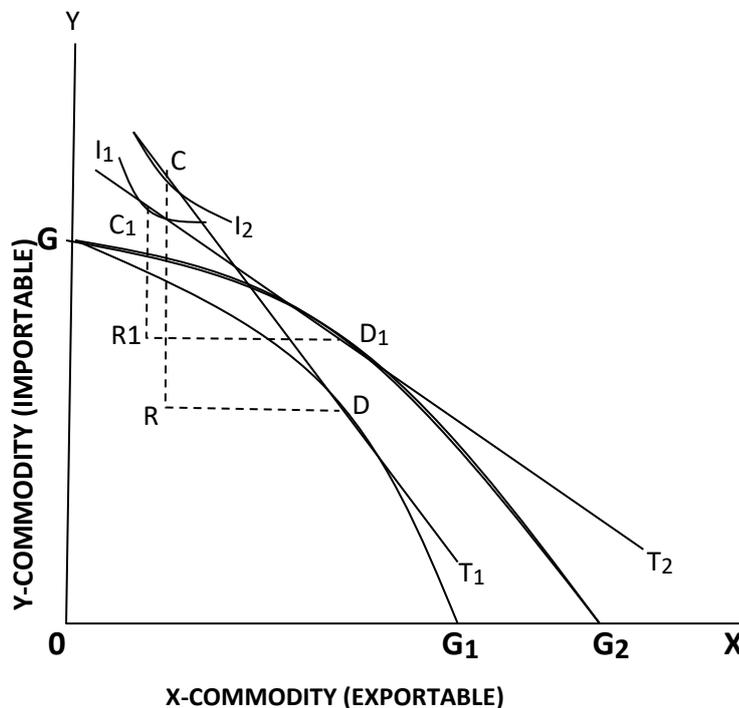


FIG. 1

In the figure above, GG_1 is the original production possibility curve while T_1 represent the terms of trade line. Production equilibrium point is determined at point D and the consumption point takes place at C where T_1 is tangent to the community indifference curve I_2 . Hence country A exports RD quantity of X goods and import CR quantity of commodity Y goods. As growth takes place and the labour supply increases, the production possibility curve will shift to GG_2 .

The price of labour-intensive commodity X falls relative to the commodity Y so that the slope of the terms of trade line T_2 decreases. In other words, production will therefore take place at D_1 while consumption takes place at point C_1 where the terms of trade line T_2 becomes tangent to the community indifference curve I_1 . Thus, after growth has taken place, R_1D_1 quantity of commodity X is exported and R_1C_1 quantity of commodity Y is therefore imported.

There is an increase in production of importable commodity due to growth and its higher relative price. However, the consumption of importable commodity decreases due to relative rise in price. No doubt, there is an increase in production but terms of trade for the focus country becomes

worsened to such an extent that consumption point shift from the higher indifference curve to the lower indifference curve which implies reduction in welfare for the focus country. Consequently, the level of welfare shrinks after growth which signifies the immiserising growth. However, this phenomenon does not seem to be prevalent in the real world (Ibrahim and Malik, 2016). Even if it is recognized that there has been a deterioration of terms of trade for the developing countries, as a result of substantial increase in production and resultant increase in real per capita income and welfare. The increase in real per capita income would have been much greater, if the growth population had occurred at a relatively lesser rate.

Trade Openness

There is no conclusive agreement on the fact that trade openness leads to poverty. Research conducted in many countries revealed that there are 3 patterns of connection between trade openness and poverty in a country, that is (i) trade openness cause the poverty to decrease, (ii) trade openness caused the poverty to increase, (iii) there is a complicated connection between trade openness and poverty. The impact of trade openness in decreasing the poverty was proved by the researches of Ozcan and Kar (2016), Okungbowa and Eburajolo (2014), Oyewale and Amusat (2013) who found that trade openness was able to push the economic growth and decrease poverty in the world. Most of the economists and economic organization said the same as well. Vamvakidis (2002), finds no positive correlation between openness and growth before 1970, suggesting the positive correlation between openness and growth is only a recent phenomenon. Harrison and Hansen (1999) on the other hand, question whether there is a positive employment impact of liberalization. They suggest that liberalization may raise wage inequality.

There are those who supported that globalization wave since 1980s had promoted the economic equality and reduce poverty (Dollar and Kray, 2002). Ozcan and Kar (2016) conducted a research on the impact of trade liberalization on poverty in Turkey using the vector error correction model (VECM) found that trade liberalization reduced poverty in Turkey. Okungbowa and Eburajolo (2014) also found same result when conducting the research in Nigeria.

Economic globalization cause the reduction in poverty, so did Oyewale and Amusat (2013) who marked globalization through the wide spreading of

economic integration to lift up the living standard in the whole world, however, most of the developing countries in Africa, Asia and Latin America had become the victim of globalization process mostly because of the poverty and inequality in income which increase in the last two decades. However, there was doubt from the contras group who claimed that globalization made country poorer. Results of the researches by Chen and Ravallion (2007), Abbott (2003), and Twyford (2003) showed that poverty was still high as the growth of economy through globalization. Chen and Ravallion (2007) made argument which doubting that globalization was able to decrease the poverty in underdeveloped country. Xu (2000), find little evidence that technology transfer from US multinational enterprises has a positive effect on productivity growth of less developed countries. Chaudhry and Imran (2013), Nissanke and Thorbecke (2010), found that there was a complex and blur relation between economic globalization and poverty. Chaudhry and Imran (2013) conducted a research in Pakistan using time series regression analysis found empirical evidence that trade liberalization decrease poverty but did not have significant impact statistically on poverty in the short run. Nissanke and Thorbecke (2010) said that globalization impact on poverty was really complex.

Poverty

Poverty has been one of the most important problems in the West African sub region for many years. Unfortunately, it is still one of the most crucial socio-economic problems in today's world. Although, poverty is thought to be a problem of underdeveloped countries, it is also among the priority burning issue of developed countries. Generally, poverty is defined as inability of people to meet their basic needs. When we speak of poverty, hunger and malnutrition often come to our minds. Okungbowa and Eburajolo (2014) saw poverty as the people who cannot meet their basic needs such as food, shelter and clothing. On the other hand, it is an undeniable fact that not only physical needs but also education, health, and socio cultural activities are crucially important in today's world. Thus, when we speak of poverty we mean whether or not individual humanitarian needs are met.

From the definitions above, there are different types and level of poverty in today's world, but all definitions of poverty are associated to the definitions of absolute and relative poverty. Chaudhry and Imran (2013) opined that

absolute poverty basically means the status of the inability of people to have access to the basic needs that are necessary to meet in order to survive. On the basis of these needs, there are also food needs of individuals. Relative poverty, on the other hand, is a status resulting from one comparing his standard of living with an income group, which is higher than one's own. Poverty may arise due to several reasons. Generally, poverty result from poor management of the country's economy, a change from the demographic structure, disintegration of conventional structure, economic crises, poor operation of social security system It also arise from the impact of the international financial capital on the country, increasing movement of migration, inflation and unemployment, monopolization, high interest rates, and natural disaster.

Research Methodology and Model Specification

The study focused on trade openness and poverty in the West African sub region using immiserising growth theory. The cross section method was used using ten countries in West Africa region which include Nigeria, Ghana, Senegal, Burkina Faso, Niger, Sierra Leone, Gambia, Guinea, Benin and Mauritania. Secondary data were obtained from World Bank Development Indicator and World Bank National Account from 2010 to 2019.

The model was specified based on the literature reviewed above. We adopted the cross section regression of random effect method. The variables used are Per Capita Income (PCI) which is the dependent variable and, Export (EXPORT), Exchange rate (EXCRATE) and Inflation (INFLATION) as the independent variables. Export was to have a direct relationship with per capita income because an increase in export means more income for the country while the exchange rate and inflation were to have an inverse relationship with the dependent variable. This is because a rise in them would result in increase in prices of goods and services which would reduce the bundles of commodities that could be bought with a fixed income received and this would reduce the welfare of the citizens. Thus the model is specified in log form to be able to reduce the data values as follows;

$$PCI_{i,j} = f(EXPORT_{i,j}, EXCRATE_{i,j}, INFLATION_{i,j}) \dots\dots\dots(3.1)$$

Equation 3.1 shows the functional relationship between per capita income (PCI) and export, exchange rate and inflation. The operation form of (3.1) is:

$$\ln PCI_{i,j} = a_0 + a_1 \ln EXPORT_{i,j} + a_2 \ln EXCRATE_{i,j} + a_3 \ln INFLATION_{i,j} + U_{i,j} \dots (3.2)$$

a priori $a_1 > 0$, $a_2, a_3 < 0$

Where i = cross section

J = time series

Regression Result and Analysis

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	3	1.0000

* Cross-section test variance is invalid. Hausman statistic set to zero.

** WARNING: estimated cross-section random effects variance is zero.

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
LOG(EXPORT)	0.335828	0.335828	0.000000	1.0000
(EXRATE)	0.136553	0.136553	0.000000	1.0000
(INFRATE)	-0.309891	-0.309891	0.000000	1.0000

Cross-section random effects test equation:

Dependent Variable: LOG(PCI)

Method: Panel Least Squares

Date: 05/19/21 Time: 21:19

Sample: 2010 2019

Periods included: 10

Cross-sections included: 10

Total panel (balanced) observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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C	4.477686	0.638517	7.012639	0.0000
LOG(EXPORT)	0.335828	0.027461	12.22942	0.0000
(EXRATE)	0.136553	0.032909	4.149389	0.0001
(INFRATE)	-0.309891	0.174091	-1.780053	0.0786

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.931795	Mean dependent var	6.591852
Adjusted R-squared	0.922388	S.D. dependent var	0.072070
S.E. of regression	0.020078	Akaike info criterion	-4.857657
Sum squared resid	0.035072	Schwarz criterion	-4.518985
Log likelihood	255.8829	Hannan-Quinn criter.	-4.720591
F-statistic	99.04747	Durbin-Watson stat	1.297547
Prob(F-statistic)	0.000000		

The Random effect regression technique was used to examine the variables specified having conducted the Hausman test, In other words, since the probability of the Hausman test was higher than 5% we accept that the random effect model is appropriate.

Using the above values of all the variables, the estimated parameters of the random effect regression model shows that there exists a positive relationship between per capita income, export and exchange rate while an inverse relationship exists between per capita income, and inflation. Thus our apriori expectation was met. This shows that increase in exports and exchange rate will increase a country citizen's welfare while increase in inflation will reduce the welfare of the citizens.

The regression estimates show that a ten unit increase in export will result to a statistical significance increase of 3.4 unit increase in per capita income. Also, a ten unit increase in exchange rate will increase per capita income by 1.3 units while a ten unit increase in inflation will reduce per capita income by 0.31 units. The F-statistic value of 99.05 shows that the variables are significant.

The coefficient of determination is 0.995 which implies that the total variations in the independent variables (export, exchange rate, inflation) are able to explain 99.5% variation in per capita income which is the dependent

variable. The DW value of 1.3 revealed the presence of autocorrelation in the model and so will be difficult to rely upon for policy in the sub region.

Conclusion and Recommendations

Developing economies do experience adverse effects on export because they mostly deal on primary products that are mostly susceptible to international price shock. This would be the case when, as a result of expanding its productive capacity, the terms of trade of a country deteriorate so much that it becomes worse off. However, we have tried to illustrate when this occurs it affects the welfare of the citizens of such country or region. We have shown that immiserising growth is less likely to occur than is generally predicted. It will occur only when for a given increase in world supply of a given commodity relative to demand for it is inelastic. Economic reality shows that many developing countries experience this type of situation.

In view of this, the sub region policy makers and the relevant authorities should pay more attention than ever on export particularly manufactured commodities so as to earn higher revenue and to ensure that the terms of trade is favourable to them. Also, macroeconomic variables such as exchange rate and inflation must be well managed so that their impact on prices will be minimal. To this end prices of commodities will be stable and low ensuring the ability of citizens to consume more and quality commodities. It is of paramount importance for the government to create an enabling business environment to ensure that the sub region's export competing effectively with those of other countries.

In the foreseeable future, the potential for West Africa's manufacturing sector to compete in its export environment will be driven by the growing size of its low-cost workforce, its rapidly expanding and urbanizing consumer market, its untapped agricultural and resource endowment, growing economic of scale created by increasing integration of the region, and increasing public spending in education and infrastructure. In order to address the remaining, non structural constraints that can be improved through political commitment, West African sub region will have to commit themselves to substantial public investment in infrastructure, specifically high speed rail network, ICT broadband cables, and sea and air ports. All of this is part of the regional project to drive export and to increase intra-Africa trade.

Conclusively, we hope that when these policy measures are taken, export will increase and will impact on the welfare of the citizens in the sub region.

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