Liberalization of Trade and Its Impact on the Economics of Developing Countries in Africa: Case Study of Some Selected Developing Africa Countries

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Abstract:

This study's aims at realizing impacts of liberalization in trade, on the economic growth in some selected developing Africa economies by augmenting in line with standard production function. A panel fix effect model was used in estimating the impacts of the macroeconomic variables in the economic growth. Real GDP in millions of US$ are used for proxy in economic growth. The capital stock series, in each cross-section, were generated from the formation of gross fix capital, and that of GDP from trade was also taken a proxy for liberalization of trade. Outcomes - Result shows a positive, significant impact on the selected macroeconomic variables, to economic growth, except, that on trade liberalization index. A unit increased in trade liberalization, deteriorates economic growth, in any of these developing countries by -280.86 million US$. The Implications of this paper - The significant negative impact indicates the relatively greater share of import than exports. These developing nations should develop production side and adopt export promotion policies besides controlling of cutting down on importation in achieving the sustainable growth. Uniqueness - This study used an augmented production function, constructed capital stock in each individual country.

Keywords: Liberalization of Trade, Developing Countries Economics

1. Introduction.

Unfavorable trade balance for long decades now has become the end result of developing and the least developing as a result of uncontrollable higher import and low export growth. Trade term has a very strong hold or positive influence or impact on the national income of a country. With the globalization and integration of world economy, most countries in the world have been combined into the ‘Global Village’ by global trade and investment relationships. The evolutions of international trade and investment become more and more important for understanding the global economic and political landscape (Zhang, Wang, Liu, & Wang, 2016). There have been the arguments on the free trade flow which propose the market-oriented product, economic development and the competitive strategies of trade which is to help trading countries fit into global trade. The increase in trade deficits has deteriorated foreign debt standings. Developing and least developing economics owe more than billions of US$, and debt service payments have emerged significantly in national income accounts (Abbas, 2014).

The impression that international trade will give rise to economic growth totally is out of age now. Because checking the early works in 1776 the Wealth of Nation by Adam Smith “father of Economic,” the world economies are pushing for improved trade performance to increase economic wealth. The developing counters are, however, facing reverse impact, because of the increasing negative trade balance. The developing nations got independence after 1945 the World War. And the adoption of the import substitution theory was originally accepted by these established economies for industrialization and the protestations of the domestic industries under the infant industry argument during 1950 to 1970. These policies laid the foundation of industrialization in these economies.

The policies of trade protestations diluted significantly with an unsatisfactory trade or economic performance that leads to the debt crisis facing the developing nation’s economy during the 1980s. (Balassa, 1978) argues for the liberalization trade policies for economic growth and from his finding, it shows that, there exists a positive link between exports and Economic growth. (Abbas, 2012) also, is the view that home supply constraints of developing nations determine export growth.

The protective trade policy has been maintained by these newly established or developing economies until the late 1990s. And until the early 2000s that these developing nations liberalize their trade under the structural
agreement reforms and then signed the trade liberalization in 1995 while joining the World Trade Organization. The main issue was that these developing economies lack the needed level of specialization in production so, trade liberalization has resulted in significant increase in import, whereas export remains sluggish. Developing nation's economist deliberated on trade restrictions in primary products (agriculture) and as well as other products being accountable for the post-liberalization trade performance in addition to domestic supply constraints. Developing nations argue on the removal of trade barriers on the export of primary (agriculture) products and related manufacturing sectors. There was a mixed response shown by the early empirical literature review on liberalization of trade on economic growth. The justification of the negative impacts of trade liberalization was attribution of the lack of specialization in production. These nations have infinite resources in the form of labor and agriculture and the lack of capital required to exploit them. The deficient capital in these economies has been significantly distorted with the increasing negative trade balance.

This study will investigate liberalization of trade, its economic impact on economic on some selected developing Africa nations using that standard production function. The data for this study will be taken from the world development indicators (WDIs) published in World Bank report. The real data on capital stock for these selected countries will also be generated using perpetual inventory method. Exports plus imports (total trade) to GDP will be used as a proxy for liberalization of trade. Also, regression model will include the real export to study or establish the impact on growth performances.

The paper is organized in the following style: starting from the introduction in Part 1, Part 2 looks at reviews of the selected empirical literature. Part 3 discusses modeling and data. The results will be presented in Part 4, whereas Part 5 gives conclusion and recommendations of the study.

2. Empirical Literature Review

An empirical literature review about foreign trade and growth in an economy became more significant in developing countries since the early years of the 1980s. Globalization in the last few decades has generated an unprecedented increase in international trade flows. Between 1960 and 2015, the average annual growth rate of the volume of world exports was 8.9%, compared with a GDP growth of 3.5% (World Bank, 2017). While the advantages to this process are many, the rise in economic openness has also made countries more vulnerable to international economic volatility, and to trade volatility in particular (Chowdhury, Liu, Wang, & Wong, 2017).

The Hecksher-Ohlin trade theory suggests that, under free trade, developing countries would specialize in producing only goods which available labor and abundant natural resources enables. The developed countries would specialize in human capital and manufactured capital-intensive activities. Trade entails the movement of goods produced in one country to another for either consumption or further processing (Halicioglu & Ketenci, 2016). The severe debt crises and the economic breakdown in the developing countries in 1982, has the significantly diluted influence of the protectionist. The literature came out that there is a positive relationship between economic growth and international trade. According to (Frankel & Romer, 1999), they investigated whether economic growth is a result of trade and it turns out that, there is a positive relationship between economic growth and international trade.

(Ekanayake, 1999) investigated the fundamental connection between exports, import, and economic growth by using eight Asian developing countries by using cointegration and also error correction model. His founding shows a bi-directional causality and also a stable long-run connection between export growth and economic growth.

Favorable growth from trade balance depends on efficient import management and market-oriented and competitive strategies for export expansion. The result of liberalization increases competition level, efficiency, and productivity of domestic production. According to (Dornbusch, 1992), his argument was that, trade liberalization benefits a nation or economies by improving the allocation of resource which is giving rise to the social marginal cost and also benefits, enabling nations having an advantage of the economies of scale and scope, leading to access to better technology and inputs, and increasing favorable growth.
The empirical literature on the impact of liberalization of trade show contradictory results. Most of the developing economies argue that a mixed impact on the individual countries or groups. According to (Leybourne, Sapsford, & Greenway, 1997), he investigated on the main impact of liberalization in trade on the economic growth of some 74 selected developing nations. In the investigations, a dummy variable was used in investigating the main impact of trade liberalization. The finding the study concluded that, on an average, trade liberalization seems to be having deterioration effect on economic growth. And also (Santos-Paulino, 2002) shows that trade liberalization has a very strong positive impact on import growth. In line with (Onafowora & Owuye, 1998) that research on investment and trade policies on economic growth in some 12 sub-Saharan African countries, the impact of export, suing a Vector Error Correction model (VECM). The outcomes suggested that there was an outward-oriented trade policy on export and that of economic growth which needs to follow. (Kim, 2000) worked on the main impact of trade liberalization on market competition, productivity and also scale efficiency of some Korean manufacturing industries by using panel data for 36 industries starting from 1966 to 1988. The outcome of the study has confirmed that trade liberalization increased competition and productivity and promotes scale efficiency. (Parikh & Shibata, 2004) investigate whether the liberalization in trade and financial sector converge or diverge the per capita income of a nation in the selected developing economies in Africa, Asia, and Latin America. Trade liberalization in developing countries has therefore often been implemented with much expectation of growth stimulation. However, the endogenous growth models have postulated that the contribution from trade to economic growth varies depending on whether the forces of comparative advantage orientate the economy's resources toward some activities that generate the long-run growth or away from such activities. Moreover, theories suggest that, due to some technological or financial constraints, less-developed countries may lack the social capability required of them to adopt technologies developed in more advanced economies. Their results show that the convergence of the main real per capita income level found in Asia and the Latin American countries is as a result of the trade liberalization which accelerates that. But the divergence in the real per capita income in case of African countries has been depicted by trade liberalization. The findings simply suggest that trade there is prosperity positively effect on economic from Asia and the Latin America as from trade liberalization but negatively in Africa. The growth effect of trade may differ according to the level of economic development( Zazonogo, 2016). (Hasan, Mitra, Ranjan, & Ahsan, 2012) Also investigated on the impact of trade liberalization on unemployment level in India from the areas of the state and the industry. The result established an important positive connection between trade liberalization and that of industrial-level unemployment. But the state-level analysis, however, shows significant negative impact in the case of unemployment. The presiding empirical literature reviews show a mixed impact of the liberalization of trade on the economic growth of the selected developing economies. (Yanikkaya, 2003) argues that, the liberalization in trade has no straightforward connections to economic growth. The current study amplified the standard production function on real exports and the trade liberalization and the trade to GDP is taken as a measure for trade liberalization. And Capital stock of the individual country is derived from available for the real gross fixed capital formation.

3. Modeling and data
This study investigates the impact of export and the liberalization of trade in relation to economic growth, the measure of the real GDP, of some selected developing Africa countries each using then standard production functions. The production growth is a function of real capital stock and labor force. The separate model is estimated for each of the developing countries. The developing countries included in this study are; Togo, Morocco, Liberia, and Uganda.

\[
GDP = \beta_0 + \beta_1 K_t + \beta_2 LF_t + \beta_3 X_t + \beta_4 TL_t + \mu_t \quad (1)
\]

Where: Kt stands for real capital stock
LFt represent millions of labor force

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Xt represents exports and
TLt stands for the index for trade liberalization.
The capital stock data of selected countries are not available at any sources.

The perpetual inventory method was used to generate capital stock series from constant gross fixed capital formation data.
The technique used in generating capital stock is represented as:

\[ KS_t = KS_t - \gamma K_{t-1} + GFKS_t = (1 - \gamma)KS_t - 1 + GFKS_t \]  \hspace{1cm} (2)

Where: Kt is level of capital stock at time t.
GFKt is gross fixed capital formation, and
\( \gamma \) is the rate of depreciation of capital stock.

Four percent depreciation on capital assets is charged following Hall and Jones (1999):

\[ K_0 = \frac{GFK_0}{\gamma} + g_{GFK} \]  \hspace{1cm} (3)

Where: K0 stands for initial stock,
gGFK also stands for a growth rate of gross fixed capital formation and
GFK0 stands for the initial level of gross fixed capital formation:

\[ TLt = X_t + M_t / GDP_t \]  \hspace{1cm} (4)

Panel fixed effect (FEM) model was used to investigate equation 1. FEM addresses cross-section-specific variations separately by intercept the term. This model investigates cross-section-specific variations by introducing n-1 dummies. So sometimes, the FEM is referred to as panel least square dummy variable (LSDV). The panel regression models possess correlation and the heteroskedasticity problem. The problem may sometime reduce by using cross-sectional-specific generalized least square estimation.

The explanatory variables can be carefully selected in order to reduce the correlation problem. The explanatory variables of the model have no autocorrelation issue:

\[ GDP_{it} = \beta_i + \beta_1K_{it} + \beta_2LF_{it} + \beta_1X_{it} + \beta_3TL_{it} + \mu_{it} \]  \hspace{1cm} (5)

Where: the intercept term \( \beta_i \) captures all the cross-sectional-specific variations. Data of selected variables are taken from WDI's, published by World Bank report.
The data of GDP, gross fixed capital formation, exports, and imports were taken in millions of constant prices in US$. The labor force is measured in millions in numbers.

**Results**

This part will discuss the outcome of equation 5. The separate regression models for each developing country are estimated using panel fixed effect model. In addressing the heteroskedasticity, EGLS method was used in the regression model for the developing countries. The results are shown in Table below with the corresponding outcomes.

**Dependent variable GDPit**
The results in the Table bring to light a very significant positive impact from the selected macroeconomics variables thus the capital stock, labor force and exports on the economic growth of these selected developing...
countries except that of trade liberalization. All these results are much in accordance with the economic theory. The outcome of the trade liberalization, however, shows contradictory significant negative impacts on the economic growth of these selected developing Africa countries under consideration. The theoretical and the empirical literature which has already suggested that export of a country adds in national income, on the other ground, import of country results in leakage of national income. Increase in the trade liberalization index (TL) as a result of comparatively higher imports share exports, results in negative or deterioration of economic growth.

From the table, the selected developing Africa countries had a negative impact as a result of higher imports into the country as against the lethargic export growth on the economy. The increase in trade liberalization deteriorates economic growth of these developing countries by recoding a negative result (-280.86) million US$ which also means there is an outflow of the national income accounting also as a result of import. The results point out that, there is the need for correction in the trade balance by accelerating export performance in the countries. If the trade balances are accelerated by export-boosting, it will then add to national income because export means there will be an inflow of foreign currency leading to a favorable term of trade. The negative recoding by these developing countries also means Trade Deficit. Again, from the Table, it shows that an increase in the real export by 1 million will automatically result in 1.25 million increases in real Gross Domestic Product (GDP) of any of these developing countries. And also, the high F-statistic and the adjusted R2 endorse the goodness of fit in the regression models. And also, the Durbin Watson value 1.13 excludes the possibility of the correlation, and the results of Jarque-Bera's statistic also confirm normality of residuals.

### Table 1: Regression Results

<table>
<thead>
<tr>
<th>Explanatory variables</th>
<th>Coefficients</th>
<th>T-statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>33,476.09</td>
<td>6.118</td>
<td>0.000</td>
</tr>
<tr>
<td>Capita stock</td>
<td>0.179</td>
<td>13.869</td>
<td>0.000</td>
</tr>
<tr>
<td>Labor force</td>
<td>298,606</td>
<td>2.317</td>
<td>0.023</td>
</tr>
<tr>
<td>Export</td>
<td>1.283</td>
<td>17.861</td>
<td>0.000</td>
</tr>
<tr>
<td>Trade liberalization</td>
<td>-280.86</td>
<td>-2.327</td>
<td>0.023</td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>0.992</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-statistic (probability)</td>
<td>1,548.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durbin–Watson (DW)</td>
<td>1.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jarque–Bera stat. (prob.)</td>
<td>2.737(0.254)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. Conclusion and Recommendations

Most developing economies are congruently and persistently facing issues in relation to foreign trade and that of economic growth performance. The persistently unfavorable trade term results in upwards increase in foreign debt standings in the developing economies resulting in a severe poverty level making economic growth static. The recent issue of globalization and integration of the world economy has now significantly increased foreign trade among the world which its goal is to accelerate growth in world economies, but, have, however, accelerate the deterioration of growth in these developing economies.

5.1 Recommendation

The developing Africa economies should try and allocate the scarce capital for development of labor-intensive production sectors base on comparative advantage investigation. The development of the export industries sector with the comparative advantage will lead to trade and economic wealth in the long run. In this regard, the development of labor stocks will bring far-reaching favorable consequences and growth opportunities in the developing economies. Secondly, developing economies should develop policies that can
promote and improve their exports and high technology trade. This study showed that export adds to national income and can also reduce the deficit in the trade balance of a nation. So, more and better policies should be developed to promote the export industries. Thirdly, developing economies should strengthen their competitiveness of exports by examining the imports of high technology and independent domestic research. Thus, more import substations industries should be open or encourage so that it can produce some of these imported products. With this, it will reduce the outflow of the national income and also help reduce the trade deficit.

Finally, developing economies, governments should focus on the catch ups strategy and plans by establishing a national innovation system which should include proper education, finance, and industrial policy, which could enhance domestic absorptive capability, thereby increasing the productivity of the economy.

Reference


