Globalization and Relative Trade of a Developing Country: Evidence from Nigeria

Joseph I. Amuka (PhD)[1]; Chukwuma C. Ugwu (PhD)[2] & Anthony O. Agu (PhD)[3]

Abstract

Globalization has promoted the integration and interdependence of the economies of various nations and regions of the world through trade liberalisation. Proponents of globalization hold the view that both the strong and weak economies have benefits to derive from it. Opponents contend that developing countries may not benefit because of the nature of their exports. This paper used quarterly data from Nigeria from 2000 to 2010 built on Error Correction Model to investigate the effect of globalization on the relative trade of developing countries. We used the ratio of export to import to measure relative trade. The result was mixed. Inflow of foreign direct investment reduced export-import ratio while openness to trade increased it. Secondly, the negative effect of foreign direct investment on export-import ratio outweighed the positive effect of openness, showing the challenge faced by developing countries under globalization

Keywords: Globalization, Relative Trade, Developing Country

Introduction

The effect of growing integration of the global economy on trade flow has dominated international economic debate with little empirical attention focused on developing countries in the last two decades. Today, there is less restriction on the movement of goods from one country to the other which many view as good for trade growth and development. Interestingly, globalisation and trade liberalisation have made significant impact in the volume of trade flow all over the world. Globalization has also impacted positively on the production and consumption of goods in both developed and developing countries alike. Developing countries now have a greater array of both consumer and durable goods while developed ones have wider market for their manufactures. That is why Hogan (2012) and Gang (2008) maintained that globalization will definitely benefit both the developed and developing countries.

For the developing countries in particular, Wade (2004); Mandle (2003) and Lall (2002) opined that globalization will boost their trade as the market for their export expands. They based their view on the market expansion argument of Adam Smith and David Ricardo. According to Lall, since wider market is an opportunity for more sales, trade openness will bring expansion in the sector that produces the traded goods in developing countries with equivalent increase in domestic employment. To buttress Lall's position, World Trade Organisation (WTO, 2013), in its study reported that developing countries are already reaping the benefits of market expansion due to global economic integration. From WTO study, as a group, the export share of developing countries in world trade increased from 34% in 1980 to 47% in 2011, in which such trade prosperity could not have come in the absence of globalization.

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[1] Department of Economics, University of Nigeria Nsukka, Enugu-Nigeria.
Email: dobuamuka@gmail.com, dobuamuka@yahoo.com, +2348037734562
[2] Department of Accountancy, Federal University Wukari, Taraba-Nigeria. Email: ucollins98@yahoo.com
[3] Department of Economics, Anambra State University, Igbariam Campus, Anambra-Nigeria.

However, Sachs (2000) and Makwana (2006) hold the view that developing countries may not have anything to gain in trade as the world economy becomes more integrated because of the nature of the good they export. The argument of Sachs (2000) is that as technology continues to advance, natural resource dependent countries will experience decline in their terms of trade since every technological development changes resource use in industrial countries. Robinson (2007) also raised similar fear of the rise of new high-tech production which may displace primary resources from developing countries, thereby creating more economic inequality between the rich and poor countries. But, Rodrik (1997) took a middle course between the opposing arguments saying that there can be gain as well as loss of trade by developing countries depending on how they globalizes. Sie (2013) also admitted that globalization has produced favourable as well as unfavourable results as some economies have expanded and others have contracted.

Trade statistics in Nigeria make it difficult to make a conclusive statement or assertion about the impact of globalization on the country's relative trade. Relative trade which is defined as the ratio of export to import (export/import), measures the ability of the exports of a country to rise faster than her imports. When export rises faster than import, the prospect for the economy to benefit from openness and trade liberalization is high. Table 1 below shows Nigeria's flow of trade between 1971 and 2010.

Table 1: Nigeria's trade flow between 1971 and 2010

Year	Export (Million)	Import (Million)	Relative Trade
1971-1975	3145.26	1750.2	1.8
1976-1980	9093.94	7404.32	1.23
1981-1985	9508.2	9350.94	1.02
1986-1990	47666.26	24373.82	1.96
1991-1995	340527.56	263237.06	1.29
1996-2000	1287551.18	818660	1.57
2001-2005	354970.38	2146195.48	1.65
2006-2010	9037621.82	5063636.62	1.78

Source: authors' computation based on Data from Central Bank of Nigeria (2007, 2010)

Removal of trade and exchange rate controls in Nigeria in 1986 under the Structural Adjustment Programme marked the beginning of economic liberalisation and integration with the global economy. From table1 above, relative trade which was 1.8 in 1971-1975 declined to 1.02 in 1981-1986. It rose to 1.96 in 1986-1990 after liberalisation. Following a reflationary budget package in 1988**(**Ukwu, 1994**),** relative trade fell to 1.29 in 1991-1995. It started rising from 1996-2000 till 2005-2010. Unfortunately, the ratio is still low and has not reached the 1986-1990 peaks, there by prompting an empirical research.

Review of Related Literature

In the last three decades, global economy became more open with less restriction on the movement of goods, finance and man across borders. The development brought important restructuring and changes in international trade. The relocation of firms from high labour cost countries of America, Britain, Germany and Japan to cheap labour cost countries of China, Malaysia, Singapore and Korea led to the emergence of the Asia Tigers. International trade pattern changed and former weak economies became strong. Globalization reorganized the production and supply of traded goods and created good opportunity for some economies to grow, of which Asia continent is a reference point. Redding and Venables (2003) quite acknowledged this and hint that globalization has raised South-East Asia to international trade prominence.

The rise of Asian economy was attributed largely to the remarkable inflow of foreign capital into the region in

the last three decades. Capital is recognized as an important factor of production and its absence retards growth due to low investment.

In the argument of the capital mobility theory, if capital is allowed to cross border easily, movement of capital from developed to developing countries will complement poor domestic savings and permit long-term investment. Prasad et al (2003) support this argument and restate that every other thing remaining the same, flow of capital to an economy will lower cost of borrowing and increase investment in key economic activities. Aizenman, et al (2011) point out that the benefit of capital flow into a country goes beyond providing investible fund as it also gives a country opportunity to access new production technology. And new technology generates knowledge spill over to domestic firms capable of enhancing their productivity. Nabi(2016) and Yumkella (1999) admitted that access to foreign capital gives a country opportunity to broaden investment, and reiterated that Asia and some emerging economies took good advantage of the international capital flow to invest in human capital development which led to their tremendous economic transformation and strong growth in the last two decades. Lin and Wang (2014) and Guo (2010) made the same assertion that opening up of Chinese economy facilitated inflow of foreign capital which led to productivity growth, urban development and industrialization.

Also, Sun and Heshmati, (2010) and Keller et al (2010) maintained that cross-country capital movement was responsible for the tremendous growth of China's export trade in the last two decades. According to them, access to capital contributed to the rise of China's trade through two important channels. First, it helped her domestic firms to access foreign technology and raw materials which they processed into export. From being an exporter of primary goods in 1970s, she became an exporter of manufactured goods. Study by Sun and Heshmati shows that, in 1980s, primary goods accounted for 50.3% of the China's export. By 2008, manufactures accounted for 94.6% of her export trade. On the Second channel, low cost labour facilitated the relocation of firms from America and Europe to China. Due to abundant cheap labour, goods produced in China became relatively cheaper in the world market and consequently, the demand for her export rose. As revealed by Keller et al, China's share of world merchandise trade rose from 1.98% in 1938 to 8% in 2008. Her export grew from 7.5% in 1978-1990 to 13.5% in 1990-2000 and 16.2% in 2000-2007.

Unfortunately, export performance recorded in China and other Asian countries in the last twenty years did not cut across majority of the developing countries. It shows globalization has not benefited all developing countries equally, especially those of Sub-Saharan Africa. As observed by Sundaram et al (2011), capital flowed out more than it flowed in into Sub-Saharan Africa since 1999 with the exception of South Africa. Capital flight has negative effect on domestic long-term investment, and as sub-continent highly dependent on primary commodity export, investment diversification was difficult for Sub-Saharan Africa. Sundaram et al revealed that Sub-Saharan Africa's share of world merchandise export fell from 3.28% in 1970-1979 to 1.78% in 2000-2008, which reinforces Shangquan's (2000)assertion that globalization, is having negative effect on developing countries' trade. According to Shangquan, 46 poorest countries in the world controlled 1.4% of total global trade in 1960. The value fell to 0.6% in 1990 and further declined to 0.4% in 1995. Selimi (2012) and World Trade Organisation (WTO, 2013) equally made the same discovery regarding unfavourable trade flow of developing countries in a recent analysis. Study by WTO showed that while export of developing countries grew at an average of 3.3% between 2005 and 2012, their import grew at 4.4%, a record of 1.1% annual deficit.

Empirically, the effect of globalization on relative trade of developing countries is scarce but there are studies on the determinant of trade balance. They include Giorgianni and Milesi-Ferretti (1997) in Korea; Catao and Falcetti (2002) and Gourdon (2011) in Argentina, Bryant and Tsebro (2008) in Africa and Jafari et al (2011). Among the factors that were discovered to be important determinants of trade flows are per capita income and total factor productivity as in Argentina, domestic investment demand and relative price of export as in Korea, and GDP per capita and access to international trade finance in Africa. Absence of empirical studies on the effect of globalization on the relative trade in developing countries is a serious neglect by scholars of international economics. What we have today are contending views. For instance, Hassan (2013) contends that globalization has only provided opportunity to the developed countries to use their comparative advantage to increase their share in world trade. On the other hand,

Goyal (2006) hints that globalization has provided opportunity for the over throw of the former world economic giants and the emergence of giants from Asia. These views are not enough for trade policy in developing countries. We need empirical support of any policy we want developing countries to take.

This paper is part of the series of studies in globalization going on in developing countries to provide clue to contending issues and fill some research gap.

Methodology

Relative trade flow is affected by many factors, including the degree of openness, inflow of foreign direct investment, country inflation, relative price and exchange rate of the domestic currency against other currencies proxied by the American Dollar. In Nigeria which is the case study, oil export is excluded from export trade for two major reasons. One, oil is an exhaustible commodity and there is no special ingenuity in its manufacture. Two, Nigeria is a member of Oil Producing and Exporting Countries (OPEC). OPEC fixes the quantity of oil each member country will supply to the world market. This implies that globalization has no direct effect on the production and exportation of oil in OPEC states. Quarterly data were generated from Central Bank of Nigeria statistical bulletin between 2000 when the country returned to civilian rule to 2010.

The model equation is stated in Error Correction form because of possible long run relationship between trade flow and its determinant.

$$X/M_t = a + \beta_1 Opn_t + \beta_2 Fdi_t + \beta_3 F_t + \beta_4 Exr_t + \beta_5 Pr_t + U_t \qquad \text{.........................} 1 +$$

From (1), X/M is the export-import ratio (measure of relative trade flow); an increase in the ratio indicates more export than import; Opn_t, Fdi_t, F_t, Exr_t, and Pr_t are openness (ratio of sum of export and import to GDP), foreign direct investment, and inflation in domestic economy, exchange rate of Naira against American Dollar and relative price. β_1- β_5 are the slope coefficients, α and U are the intercept and error in the model while t represents the time series element in the model.

To estimate the Error Correction Model, above equation was transformed to-

$$\Delta X/M = a + \beta_i \Sigma \Delta X_i + \lambda ECM_{t-I} \qquad \text{...}2$$

Where: $\Delta X/M$ = differenced export-import growth, ΔX_i = the exogenous variables in the model, while λ is the ECM parameter and $\beta_i = \beta_1, \beta_2, \beta_3, \beta_4, \beta_5$

Result

Table 2: Unit Root Test for Stationarity

Variable	ADF Test-Stats	5% Critical Value	Intercept & Trend	Order of Integration
X/M	-4.175	-2.950	No	I~I(0)
Opn	-3.710	-3.528	Trend	I~I(0)
F	-4.682	-2.950	No	I~I(0)
Exr	-4.162	-2.950	No	I~I(0)
lFdi	**-9.329**	-2.952	No	I~I(1)
Pr	-3.269	-2.950	No	I~I(0)

Source: authors' calculation based on Nigeria data

Dick-Fuller test for Stationarity was presented in table 2 above. Apart from foreign direct investment (fdi) which is stationary at 1st difference, all the variables are stationary at the level form. In order words, outside foreign

direct investment, the mean and variance of the variables are constant over time.

Diagnostic Test

The diagnostic econometric tests were done to validate the assumptions of the ordinary least square (OLS). Results of the tests are presented in the tables below.

Autocorrelation

DW= 0.98, The value of Durbin-Watson test suggests presence of Autocorrelation. The problem was corrected with the robust standard error as presented in table 6.

Table 3: Multicollinearity Test

Variable	VIF	1/VIF
Pr	4.72	0.21184
Exr	3.82	0.261735
Opn	2.44	0.409836
Inf	1.59	0.62804
IFdi-1	1.17	0.851683
Mean VIF	2.75	

The result presented in table 3 suggests there is no presence of Multicollinearity.

Table 4: Specification Test

	Calculated	1%	5%
F-Statistic	53.69	4.5	3.23
Prob>F= 0.0000			

The value of the calculated and critical 'F' in table 4suggests the model is well specified.

Table 5: Cointegration Test

Variable	ADF	1%	5%
Residual	-3.780	-3.634	-2.952

Source: authors' calculation based on Nigeria Data

Cointegration between the dependent and independent variables is suspected from the result presented in table 5. We proceeded to error correction model (ECM) to reconcile the short-run and long-run behaviour of the dependent and independent variables.

Table 6: Regression Result (Dependent Variable: X/M)

Variable	Coeff	Robust std err	t	p>/t/
Opn	0.0001167	0.00003	3.89	0.000
Inf	-0.0026766	0.0044684	-0.6	0.553
Ifdi-1	-0.0168023	0.016134	-1.04	0.305
Exr	-0.0043433	0.0014585	-2.98	0.005
Pr	-0.0029608	0.0011058	-2.68	0.011

ECM-1	-0.0575103	0.0990362	-0.58	0.565
Const	0.0806607	0.01638888	4.92	0
R²=0.74 F(6,35)= 4.77				

Source: authors' calculation based on Nigeria data

Discussion of Finding

Table 6 above is the result of the effect of globalization on relative trade flow in a developing country based on analysis with Nigerian data. All the explanatory variables apart from the foreign direct investment satisfied the a priori sign. The value of the Coefficient of Determination is 0.74, showing that the independent variables included in the model explained 74% of the changes in the relative trade of Nigeria within the study period. The explanatory power of the independent variables is high.

Trade Openness

The analysis used trade openness and foreign direct investment (fdi) as the two indicators of globalization as conventionally used by some other researchers (Samuel, 2010). From the result, openness to trade has positive and significant effect on the relative trade flow of Nigeria. That is, openness led to increase in the value of the country's export more than her import. As a developing country, the result is important for trade policy. It erases the fear of economic domination in a global economy with goods, services, finance and persons allowed to move with minimum restriction. Increase in export relative to import will improve the trade balance of the country. Moreover, the benefit goes beyond increase in export because an expansion in the export sector will create employment opportunities in the activities that produce export commodities.

Foreign Direct Investment (Fdi)

When we turn to the second component of globalization, that is, inflow of foreign direct investment (fdi), the story is different. Foreign direct investment is negatively signed and not significant. Though, no past study has been done on the effect of globalization on trade flow by the researchers, it is rather more rational to expect a positive effect of FDI on relative trade. Because of the sign, we turned attention to the pattern of foreign direct investment flowing into Nigeria to find out why. An examination of the pattern of foreign investment flowing into the country revealed that agriculture which is the driver of the country's non-oil export was less attractive to foreign investor since 2000. Agriculture attracted only 0.25% of the foreign investment that flowed into Nigeria in 2006, and it fell to 0.24% in 2007 (Central Bank of Nigeria Statistical Bulletin, 2008). This percentage is negligible to make any major contribution to the country's export. Processing for export was not done by domestic firms as the Chinese did. There was nothing like technology spill over effect in the country.

Long-Run Equilibrium

There is a long run relationship between the dependent and independent variables and they converge to equilibrium in the long-run. The negative sign of the ECM is an indication of this convergence from short-run disequilibrium to long-run equilibrium. Being a quarterly data, the speed of adjustment from disequilibrium to equilibrium is 5.8% a quarter. Unfortunately, ECM parameter is not significant, suggesting that globalization has no significant effect on relative trade of Nigeria economy in the long-run. As a primary commodity exporting country, the result may not be surprising because Sachs (2000) and Makwana (2006)) truly remarked that countries that export primary commodities have not much to gain from globalization.

Conclusion

Many countries are counting their blessings because of the progress made in international trade due to

globalization. Among the developing countries whose trade performance are high are countries in the region of South-East Asia. Trade performance of Latin-America countries improved slightly while the region of Sub-Saharan Africa had poor trade performance (Redding and Venables, 2002). The present research has reinforced the finding of Redding and Venables that Sub-Saharan Africans may not have benefitted from international trade in the globalized economy. The result suggests that if we use finding from Nigeria to make a reference, globalization may not favour relative trade flow of developing Sub-Saharan Africa countries because the sector that drive export sector is not attractive to foreign direct investors.

For full benefits of globalization, the sectors that drive export must receive substantial foreign direct investment In the case of Nigeria; the agriculture activity which drives the non-oil export is not attractive to foreign investors going by the share of agriculture from foreign direct investment. Globalization and the greater integration of the global economy have brought stiff competition among firms. International trade is now a survival of the fittest for both big and small firm. But one important fact which emerged from this study is that for a primary commodity exporting country, globalization will not lead to a total loss in the global trade. However, it is safe for primary commodity exporting countries to diversify export base to reap the full benefits of globalization as China is currently doing.

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