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Trend of Globalization and Its Impact on Agriculture: Forestry Share

Oke Razaq Ajibola

Research Coordinating Unit, Forestry Research Institute of Nigeria, Ibadan, Nigeria

Email address
ajibols03@gmail.com

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Abstract
Many theories linked agriculture, trade and globalization as components of growth and development through economic openness. Meanwhile, globalization has proved to be advantageous because it has helped many countries to increase their economy level of liberalization as well as the level of openness that has in turn led to growth and development. Though, some are on the receiving end while few others remained stagnant. To this extent, this paper looked through the Nigerian economy with global perspective through agricultural sector and forestry sub sector to evaluate and resolved that Nigeria has benefitted from globalization but not as much as she should, giving the imbalance of the outcome within subsector of the economy especially forestry subsector of the economy. With the help of secondary data and chats sourced and computed from the Central Bank of Nigeria Statistical bulletin, this study is able to show the level of openness and growth over the years on trade and Agricultural outputs respectively, it was also established that Nigerian economy has had its share in the benefits of international trade through agriculture, couple with the effects of fluctuation in world market. Thus, believe that agroforestry land use practice is desirable and capable of enhancing the needed production in agricultural sector vis a vis exportation to bring about desired growth and development to the country.

Keywords
Globalization, Degree of Openness, Agriculture, Forestry, Total Trade, Agroforestry, GDP

1. Introduction

This paper viewed forestry as a subsector of agriculture in Nigeria and resolved that any problem that affects agriculture will have a direct impact on forestry vice versa. Similarly, the effect of globalization on agriculture is presumed to also have similar impact on forestry.

Meanwhile, there is no way we can talk about globalization without applying it on one of the most important sector of an economy such as agriculture. Globalization in this context and for eased analysis means interconnectivity of countries in trade, immigration and businesses which brings about fusion. Due to a long history, to this regard, it's difficult to ascertain the actual time globalization started, but with events that unfolds over the years, one can talk about the emergence of modern globalization [4].

Globalization can be traced to the era of capitalism in Europe in the 16th centuries followed by the expansion of trade, investment and bilateral agreements in the 19th centuries. Meanwhile, there was a break because of World Wars and great depression of 1930s. Consequently, a reunion of countries of the world came up with International Date Line and World Time Zones while the post-World War II stimulates capitalism that brought about the springing up of different multinational companies like Lever Brothers (now unilever), UAC, Guinness, Cheveron, Shell etcetera. Also, the resultant effect gave birth to some international bodies that were saddled with the responsibility of uniting countries of the world such as IMF, WTO, IDA, IFT etcetera. While liberation of colonies created a new world order with the development of air travels and international communications which enhanced the progress of international businesses [2, 16].

Consequently, present day's globalization embraces free movement of human capital, goods and cross border resource exchange, which are made possible with the aid of advancement in information and communication technology. The institutions of globalization were founded for specific purpose and jointly to set common goal that are expected to aid growth and development. The establishments of globalization refers to as institution or organization that are campaigning and implementing the concept because the phenomenon doesn't work in vacuum. These institutions are well established and can be heard and be seen to all, that's why some critics censors their module-operandi, trying to know the main forces that controls them. However, the idea came through developed nations such as USA, Britain, Germany, and France etcetera to form corporate institutions like, International Monetary Fund (IMF), World Trade Organization (WTO) and United Nations (UN) among others [2, 6].

This paper therefore aim to review literatures and theories of globalization, follow the trend with its aims and objectives and evaluate its benefit on developing countries using Nigeria's experience as a case study. With the help of secondary data and data computation, level of trade openness and benefits are set be established.

2. Objectives and Features of Globalization

One would have thought that as different scholars and proponents defines or viewed the meaning of globalization differently, so also will the functions be. But no matter the angle in which it is viewed, the concept's aim and objective is the same to all, which is the openness of an economy to connect with other nations of the world purposely for trade liberalization and investment aimed at achieving growth and development, to reduce inequality and consequently improve standard of living. Thus, critics viewed it as a way of suppressing social welfare system by supporting public expenditures that has no direct impact on capital expansion. In other words, anything that is perceived to be interfering with the growth of capitalism must be curtailed, while government policies and structure should be channel towards protecting capitalists and to enhance military capacity so as to bring people together. The Laissez faire assumption [3].

3. Theoretical Review

Despite the intertwined nature and the relationship between trade and growth, agricultural production and market openness across board, research findings using different approaches has shown that growth and development are enhanced by trade liberalization or market openness through foreign trade in agricultural businesses especially in developing countries, among others. The inability to deal with problems arising concurrently from this is a setback, due to the fact that output and trade are determined simultaneously. This suggests that a different requirement and definition of variables would be desirable [12, 15].

In an attempt to overcome this problem of simultaneity, an index of possibility based geographic factor was developed as a measure of openness to discover a significant impact level of openness on per capital income [5]. Furthermore Gabriel and Mohamed also depicted on the new growth theory and suggested that greater openness by letting go of constraints imposed by the extent of domestic market should be associated with higher productivity [6]. In spite of the skepticism raised by some theorists after surveying all the prominent empirical research on the subject, they still concluded that varied evidence supports the view that trade openness contribute greatly to growth and agricultural productivity and performance [3, 5, 6, 15]. Just as stated above, opinions differs as regards the linkage between trade, openness and growth in the recent times given the cross country tentative analysis, because it's almost impossible to completely isolate the impact of trade policy from other aspect of economic and agricultural policies. Though, a combination of qualitative and quantitative in-depth analysis of macro variables and bottom up assessment suggest that openness is one significant factor in promoting growth [7]. In line with the above argument, the precise linkages between trade, openness and growth has generated controversy, as cross country studies do not provide definitive answers, simply because it is impossible to completely isolate the impact of trade policies from other aspects of economic and agricultural policies is inadequate. Rather, a combination of macro-numbers and bottom-up, in depth country studies, relying on qualitative as well as quantitative assessments, supports that openness is one significant factor in promoting growth [12].

This so far requires careful observation in order not to exaggerate the case for external liberalization as a major facilitator of globalization, so as to convey the impression that it is a panacea. It should be noted that liberalization of international transactions however cannot be seen in seclusion. Accordingly, it should be seen in the context of internal institutional changes, since external liberalization does not take place in a vacuum. Liberalization and openness must be guided to prevent the economy from experiencing macroeconomic uncertainty that could hasting structural imbalance. This is without bias to the point that more openness is advantageous to an economy because it delivers other avenues for earnings to argument domestic needs in order to facilitate economic growth and development [14].

4. Theoretical Analysis

There is a popular argument in favour of international trade which states that international trade allows for division of labour and specialization resulting in an increased output and productivity, suggesting that agricultural sector can bring the needed incentive to grow and develop an economy. Hence, comparative advantage opens access to a wider markets, increases specialization and productivity through economy of scale [8].

There are several other theories that link agricultural production, trade and globalization together for greater economic growth. Since globalization is often associated with less restrictive trade regimes resulting in more openness of the economy with concomitant increase in trade volume. This higher level of openness, theory suggests, promote better economic performance. There are two theories which provide the channel through which openness affect agricultural production and economic growth. First is the static allocative efficiency gains theory which suggest that greater openness yield unambiguously better economic performance in terms of a higher level of output or income even if not in terms of a higher long rate of growth. This is because removal of trade barriers expands the feasible set of consumption possibilities by providing a more efficient technology to transform domestic resources into goods and services. It also reduces other costs of a less open trade regime such as dead weight losses arising from domestic monopolies, costs arising from scale inefficiency technical inefficiency, and cost of rent seeking and directly unproductive activities [18].

Secondly, the new growth or endogenous growth theories suggest that greater openness brings about a higher long-run rate of growth of output, achievable through a favourable impact of either openness or technological change or through exports, thereby raising returns for innovation and enhances the country's specialization. This does not on its own establish any positive connection between openness and agricultural production and consequently an increase in growth since it is believed that prices can be lowered by increased foreign competition or it can be increased by import protection. The implication of this theory for Nigeria's development aspiration is that, the private sector has to shoulder the responsibility if making efforts to actively participate in the global market by producing commodities that are competitive and by their ability to manage both domestic and foreign investment [7].

5. Agricultural Policy in the Annual Budget

Annually, the federal government passes budgets expected to cover all the sectors of the economy and agriculture is one of the main sector. This budgets over the years are usually followed by sectorial policy. Some of this policy objectives are targeted at executing special tasks and that of agriculture was set to ensure;

A. Growth and productivity to increase production of food and cash crops,
B. Contribute to development to maximize contribution of cash crop to development, integrated rural development, self-sufficient in food, increase in supply of agricultural raw materials, reduction in import dependency, reduction in rural-urban welfare gap, etcetera,
C. Macroeconomic objectives to reduce inflation, increase rural employment, higher export earnings, reduction in food imports, etcetera,
D. Institutional objectives to increase foreign investment, improvement in food storage, reduction in post-harvest loss, etcetera [11].

6. Trade, Openness and Nigerian Economy

Openness of an economy is one of the key element of globalization for any nation intending to grow its economy. The level of openness therefore depends on the type of economic policy being pursue by the country. Because of Nigeria's relative dependence on external trade, the Nigerian economy is more open recently. The pace of its openness was intensified with the policy shift from trade and exchange controls to economic liberalization from 1986 [17].

However, to determine the extent of openness of the Nigerian economy, trade flows involving the country will be analyze to show the share of total trade in total output or gross domestic product (GDP) as applied to measure the openness of the economy.

Thus,

$$\text{Degree of openness} = \frac{\text{Total Trade}}{\text{GDP`}}$$

Where:

$$\text{Total Trade} = \text{Total export} + \text{Total import}$$

On the basis of this methodology Table 1 was computed using data from the Central Bank of Nigeria (CBN), according to the table, the Nigerian economy recorded increased openness between 1997 and 1999, reflecting a movement from 0.114 to 0.117 during these periods, the trend showed a decline from year 2000 to 2003 from 0.117 to 0.097. In 2004 it increased by 0.023 and the increasing trend continues to the year 2011. It mirrored adequate performance of government seven point agenda structure introduced in 2007. The openness index nudged upwards, reaching 0.167 in 2001. There was a slight decline again as a result of the up rise in the north eastern part of the country couple with political instability caused by the president's illness that distorted government policies. An increase returned in 2012 when 0.166 was recorded, this rose to 0.172 in 2016, before declining to 0.169 and 0.164 in 2017 and 2018 respectively. This was accounted for by the decline in both export and import from their levels in the preceding year. And it is owning to the fact that the government in the process of diversifying the economy, blocked importation of some items like rice. [10]

Table 1. *Trade, Growth and Openness (Annual Constant Basic Price Billion Naira).*

Year	(₦ Billion) T. Trade	(₦ Billion) GDP	GDP Growth ()	Openness (%)
1997	2,494,263.94	21,789,097.84		0.114
1998	2,569,092.60	22,332,866.90	543769.06	0.115
1999	2,633,319.28	22,449,409.72	116542.82	0.117

Year	(₦ Billion) T. Trade	(₦ Billion) GDP	GDP Growth ()	Openness (%)
2000	2,675,452.58	23,688,280.33	1238870.61	0.112
2001	2,742,338.22	25,267,542.02	11578973.69	0.108
2002	2,920,109.32	28,957,710.24	3690168.22	0.101
2003	3,088,307.85	31,709,447.39	2751737.15	0.097
2004	4,220,216.79	35,020,549.08	3311101.69	0.120
2005	4,790,507.21	37,474,949.16	2454400.08	0.127
2006	5,521,460.53	39,995,504.55	2520555.39	0.138
2007	6,360,814.10	42,922,407.93	2926903.38	0.148
2008	7,252,600.24	46,012,515.31	3090107.38	0.157
2009	8,085,442.30	49,856,099.08	3843583.77	0.162
2010	8,992,649.98	54,612,264.18	4756165.1	0.164
2011	9,640,904.56	57,511,041.77	2898777.59	0.167
2012	9,853,678.82	59,929,893.04	2418851.27	0.164
2013	10,507,899.27	63,218,721.73	3288828.69	0.166
2014	11,125,795.61	67,152,785.84	3934064.11	0.166
2015	11,697,587.66	69,023,929.94	1871144.1	0.169
2016	11,669,061.39	67,931,235.93	-1092694.01	0.172
2017	11,546,445.65	68,490,980.34	559744.41	0.169
2018	11,473,791.00	69,810,022.62	1319042.28	0.164

Source: Computed from Central Bank of Nigeria (CBN) Statistical Bulletin.

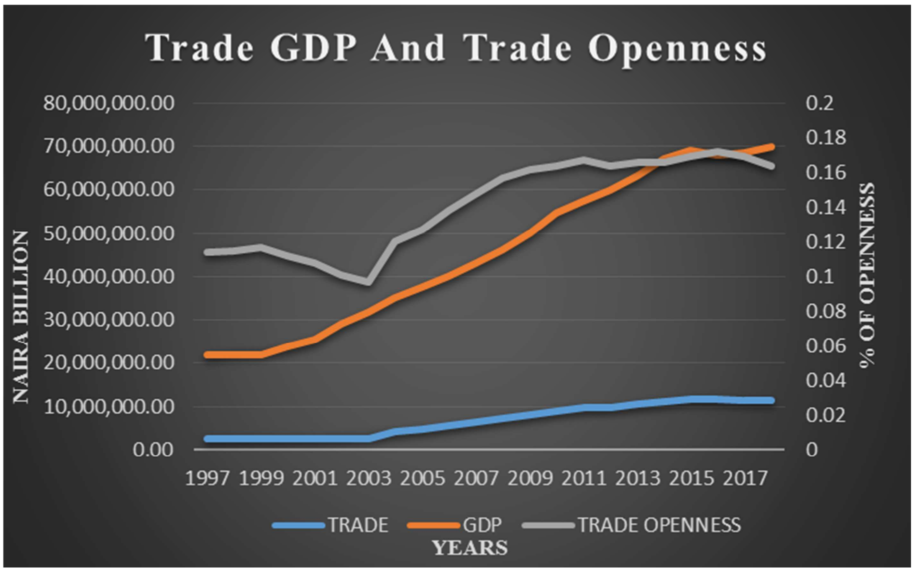

Figure 1. *Trade, GDP and Trade Openness.*

Table 2. *Agricultural Production and its Sub-sectors (Annual Constant Basic Price Million Naira).*

Year	Agricultural Production	Crop Production	Livestock Production	Forestry Production	Fishing Production	% of Agric on GDP	% of Forestry on GDP
1997	4,305,679.63	3,611,905.26	512,461.13	82,982.17	98,331.07	19.8	1.9
1998	4,475,241.38	3,752,769.63	526,297.84	83,977.89	112,196.02	20.0	1.9
1999	4,703,643.68	3,949,415.21	541,034.01	85,070.09	128,124.37	21.0	1.8
2000	4,840,971.20	4,067,897.64	553,478.21	86,346.14	133,249.20	20.4	1.8
2001	5,024,542.11	4,222,477.41	570,082.86	88,072.90	143,908.93	20.0	1.8’
2002	7,817,084.50	6,977,878.78	597,498.38	88,690.22	153,017.10	27.0	1.3
2003	8,364,832.10	7,493,024.20	622,559.31	90,021.50	159,227.10	26.3	1.1
2004	8,888,573.40	7,956,655.07	663,025.91	95,873.02	173,019.40	25.4	1.1
2005	9,516,991.54	8,524,146.88	707,871.01	101,546.80	183,426.85	25.4	1.1
2006	10,222,474.98	9,162,650.26	756,734.19	107,658.07	195,432.46	25.6	1.1
2007	10,958,469.13	9,826,769.09	809,164.94	114,249.34	208,285.76	25.5	1.04
2008	11,645,370.98	10,437,994.13	864,188.16	121,218.55	221,970.14	25.3	1.04
2009	12,330,325.55	11,046,155.59	920,199.22	128,313.12	235,657.62	24.7	1.04
2010	13,048,892.80	11,683,896.37	979,564.05	135,720.90	249,711.48	23.9	1.04

Year	Agricultural Production	Crop Production	Livestock Production	Forestry Production	Fishing Production	% of Agric on GDP	% of Forestry on GDP
2011	13,429,378.77	12,017,192.00	999,404.04	142,459.38	270,323.35	23.4	1.1
2012	14,329,705.62	12,919,542.05	972,762.79	146,094.08	291,306.71	24.0	1.02
2013	14,750,523.21	13,247,801.80	1,030,937.33	154,314.17	317,469.91	23.3	1.05
2014	15,380,389.34	13,793,450.01	1,086,847.00	161,338.20	338,754.12	22.9	1.05
2015	15,952,220.14	14,274,936.74	1,151,323.39	167,258.41	358,701.61	23.1	1.05
2016	16,607,337.33	14,894,447.82	1,185,118.44	171,642.65	356,128.42	24.4	1.03
2017	17,179,495.29	15,437,049.70	1,204,205.25	177,326.97	360,913.36	25.1	1.03
2018	17,544,147.74	15,786,437.68	1,208,128.04	182,747.93	366,834.08	25.1	1.04

Source: Computed from Central Bank of Nigeria (CBN) Statistical Bulletin.

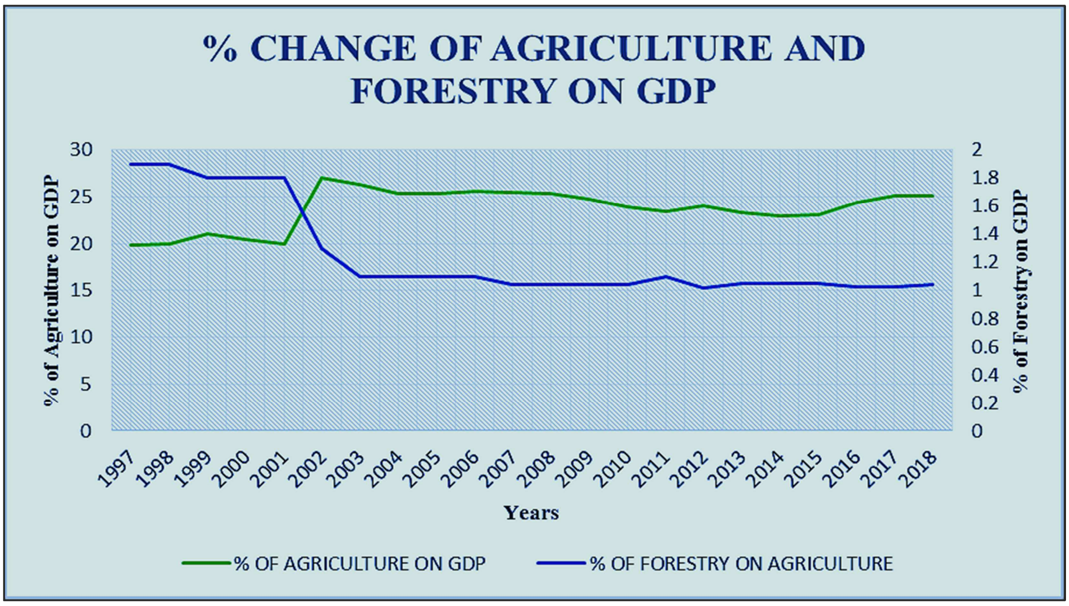

Figure 2. *Percentage Change if Agriculture and Forestry on GDP.*

Agriculture sector is depicted in blue line of B chat and its trend showed a general increase in the percentage change of increase in its contribution to GDP. It follows a toggling pattern but the most noticeable point is the increase of 7.0 between 2001 and 2002. The fluctuation continues to the end while it ended with 25.1% in 2018, higher than the starting point of 19.8 in 1997. The highest being 27.0 in 2002.

Similarly the percentage of forestry sub-sector input on total GDP output is depicted in green line and reflected a toggling movement as well. While the first 3 years of 1997, 1998 and 1999 were all in a constant figure of 1.9%, it dropped by 0.1 in 2000 to 1.8 and maintained the same in 2001. In 2002 it dropped further to 1.3 and to 1.2 in 2003, from 2003 to 2006, it maintained same figure 2007 to 2010 also witness a drop to 1.04 while it return to 1.1 back in 2011 and declined to 1.02 in 2012, it went up to 1.04 in 2013, 2014 and 2015. By the year 2016 and 2017, it dropped slightly and it witnessed a similar slight improvement in 2018. Overall, there's a decreasing flow of the percentage change in increase of forestry sub-sector's contribution to the total GDP of Nigerian economy between 1997 and 2018.

Note that there is a general increase in the performance of agricultural sector and forestry sub-sector on table 2, but the trend shown on B Chart is the percentage change of the general performance against GDP which shows that it's not stable or constant, rather on a toggling movement.

From the foregoing analysis, the Nigerian's agricultural sector and its forestry sub-sector requires a revamping approach to move from its semi mechanised techniques to a more advance capital/mechanised intensive techniques with greater yield for it to compete favourably in the global market.

An increase in agriculture sub-sectors like forestry, will improve it output and in turn lead to growth since; Agriculture and Development = GDP Growth.

Globalization and its accompanying technological progress have significantly influenced agriculture and forestry production. This technological change has two main impacts on an economy.

A. It increases food supply and causes prices to fall and therefore increase consumer welfare;
B. It makes it possible to produce more with relatively less labour, thus freeing labour for the development of other sectors of the economy.

However, economists have noticed that the share of agriculture in the total labour force has markedly declined worldwide in recent years. The share varies widely among countries but it relatively high in less developed countries for instance Nigeria with over 70% of its population engaging in agriculture [2]. But ever then, as the World Bank observes and cited by Kym and will, the run benefits of technological change in agriculture (more output at lower prices and more and more labour for other activities) are not captured by agriculture but by the rest of the economy. These assumptions has important policy implications for the finance of agricultural research with the cost being carried by the public rather than by agriculture alone. Besides, since the benefit of research are evolution spread to all countries, research financing should be an international concern [9].

As is almost generally agreed that agriculture should be the foundation for the government of Africa which appears to be the only continent in which the per capita income agricultural production has been declining over the past decades. African governments have indeed, realized how central the agricultural sector is to their broad economic, social and political development. According to the Food and Agricultural Organization (FAO) of the United Nations, hastily implemented adjustment policies and declining donor support have made Africa's agricultural revival more difficult, especially in the continent's low-income, food-deficit countries.

7. Agroforestry as a Toll for Agricultural Growth

Agroforestry is agricultural land use science that combines agriculture and forestry focusing on land use system management, that is, use of a piece of farmland for planting of crops or pasture and trees or shrubs. This system reduces both cost and use of land in agriculture and forestry production. In line with the aforementioned, World Agroforestry Centre (ICRAF) describes it as a cautious effort to increasing socio-economic development through an increase in food production by combining forestry activities such as trees and shrubs and agricultural activities such as crops and pasture/animal on the same piece of land. In other words, it is the management of ecological diversity for providing foods and services [1, 10]. Agroforestry can serve as source of raw material, and with the recent unemployment and environmental problems in the country, it is capable of relieving the economy off the problem and turn things around for good if its concepts are adopted and well managed. It remained the tool for successful farmers to meet their projected targets from time to time. Its products such as vegetable leaves, fruits, trees and other tree foods have been beneficial to mankind over the years. Basically, it helps reduce required space for planting and the cost of setting up the farmland, thereby increases food production and exportation of raw materials and other agroforestry products [1].

8. Conclusion

Given the proven examples of successes of countries that embraces globalisation processes, especially developed countries, it is sufficient to say that globalization is a tool that can enhance desired growth and development especially for most developing countries like Nigeria. Therefore, with the level of openness exhibited by Nigeria, an inward policy approach to increase production processes in agricultural sector alongside manufacturing and services sectors, restructuring will make a huge difference. Meanwhile, ecological diversification with agroforestry option of agriculture and forestry land use system in agricultural sector can be cost effective and improve agricultural output to enhance growth for the country through exportation.

References

[1] Adepoju A. O., Akinyemi O. Oyewole S. O. and David E. O. (2018) Agroforestry in a Diversified Nigerian Economy. Proceeding of NAAE Annual National Confrence, KADA. 781–787.

[2] Bhosale S. K. (2015). Effect of Globalization on Agriculture. Foundation course, Semester 2 available at www.dspace.vpmthane.org.

[3] Draher axel, gaston noel and mantens pim (2010). Measuring Globalization Opening the Black Box. A Critical Analysis of Globalization Indices. Journal of Globalization Studies 1 (1).

[4] Ellen huan-niemi, (2015) (mtt Agrifood Research Finland) The Impact of Globalisation on Agriculture and Employment for the Poor.

[5] Frankel J. A, and Romer D. H. (1999). Does Trade Cause Growth? The American Economic Review.

[6] Gabriel B. A. and Mohamed A. (2011). Impact of Globalisation: The Ability of less Developed Countries (LCDs) Firms to Cope with Opportunities and Challenges. European Business Review 23 (1) 120–132.

[7] Green D. (2014). The implication of Economic and Financial Trends and Globalization for the Demand for and Supply of Skills. (Book Driver of Change for the Australian Labour Market to 2030 pg 43-54).

[8] Heizi N, Markusen A. and Karl D. (1997) Trade and American Cities: Who has Comparative Advantage? https://doi.org/10.1177/089124249701100106.

[9] Kym Anderson and Will Martin (2005). Agricultural Trade Reform and the Doha Development Agenda World Bank Policy Research Working Paper 3607.

[10] Michael c. a. Anthony c. a. (2015). Economic Diversification for Sustainable Development in nigeria. Open Journal of Political Science 5 (02) 87.

[11] Mike I. O. and Okojie I. E. (2016) An Empirical Analysis of the Impact of Trade on Economic Growth in Nigeria. Journal of Economics vol 4 no 7.

[12] Nordstrom H. and Winters L. A. (2000). Trade, Income Disparity and Poverty. https://agris.fao.org.

[13] Oyejide, T. A. Nigerian Trade Policy in the Content of Regional and Multi-lateral Trade Agreements. Research Report no 27 Development Policy Center (DPC), Ibadan, Nigeria.

[14] Raymond venon (2017) International Investment and International Trade in the Product Cycle. International Business 99-116.

[15] Rodrigues F. and Rodrik D. (2000). Trade Policy and Economic Growth: A Skeptic's Guide to the Cross National Evidence. NBER Macroeconomics Annual v 15.

[16] Sterian M. G. (2013) The Role of International Organization in the Global Economic Governance. An Assessment. Romanian Economic and Business Review–Special issue.

[17] Suberu O. J, Ajala O. A, Akande M. O. and Olure-Bank A. (2015) Diversification of Nigerian Economy towards a Sustainable Growth and Economic Development. International Journal of Economics, Finance and Management Sciences 3 (2) 107-114.

[18] Tobias B. (2007). International Trade and Economic Growth in Developing Countries. Presentation at the DEGIT XII Conference in Melbourne.