European Journal of Social Sciences Studies
ISSN: 2501-8590
ISSN-L: 2501-8590
Available on-line at: www.oapub.org/soc

DOI: 10.46827/ejsss.v8i6.1495 Volume 8 | Issue 6 | 2023

TRADE LIBERALIZATION AND DOMESTIC PRIVATE INVESTMENT IN NIGERIA

George-Anokwuru, Chioma Chidinma[i]
Department of Economics,
Faculty of Social Sciences,
University of Port Harcourt,
Rivers State, Nigeria

Abstract:
This paper examined the effect of trade liberalization on domestic private investment in Nigeria from 1981 to 2020. To achieve this objective, secondary data on domestic private investment, trade openness, exchange rate and interest rate were sourced from the statistical bulletin of Nigeria's apex bank. The Autoregressive Distributed Lag (ARDL) technique was used as the main analytical tool. The ARDL Bounds test revealed the existence of long-run association among the variables. The results revealed that trade openness and exchange rate have positive and insignificant relationship with domestic private investment both in the long and short runs. At the same time, interest rate has a negative relationship with domestic private investment both in the long and short runs. Therefore, it was concluded that there is no significant relationship between trade openness, exchange rate, interest rate and domestic private investment in Nigeria during the period of study. Based on the findings, the study recommended that government should formulate trade policies that will encourage the growth of domestic private investment in Nigeria. To achieve this, the government should ensure consistency in trade policies and at the same time strengthen the existing policies to build investors' confidence. Also, the government should make available an investment-friendly environment, as well as monitor real sector operators to ensure that foreign exchange allocations are not diverted. Government should increase capital investment in education, housing, transportation, agriculture, health, power, road construction, and national defense, among others that will help the various sectors of the economy to function very well thereby making the business environment friendly to enhance the growth and development of the country.

JEL: D01; E20; G10

Keywords: trade openness, domestic private investment, ARDL, exchange rate and Nigeria

[i] Corresponding author: email chiomanwoga@yahoo.com

1. Introduction

Trade liberalization policy is based on the principle of non-interference by the government in foreign trade. Specifically, it entails the removal of the various barriers to trade that countries around the world have erected. Goods and services can be freely imported from and exported to the rest of the world. That is, trade liberalization policy allows countries to export those goods and services that they can produce efficiently, and import the goods and services that they produce inefficiently (Echekoba, Okonkwo & Adigwe, 2015). The aim of trade liberalization policy is to stimulate production (especially domestic production), protect efficiency and help reduce the cost of production (investment). Thus, increasing international confidence in the market mechanism of the economy (Asongo, Jamala, Joel & Waindu, 2013).

Supporting the above, Jhingan (2007) submitted that trade liberalization has several advantages. These advantages include optimum utilization of resources. Since trade liberalization leads to international specialization and division of labour, resources are employed more productively and the allocation of resources becomes more efficient. In addition, trade liberalization leads to a wide extent of markets for goods and services. As a result, the demand for goods is not confined to one country but to a number of countries. Thus, the entire world market becomes the market for all types of goods. Strictly speaking, trade liberalization prevents the establishment of monopolies and leads to the maximization of output. Liberalization is seen as the best policy for economic development.

According to Iheanacho (2017), one of the channels through which trade liberalization is thought to influence an economy is that imports of capital and intermediate goods can contribute to the growth process of an economy by enlarging the productive capacity of the economy. The goods produced can be exported to other countries to enhance the revenue base of the country and move the economy on the path of growth and economic progress. Through export, there will be sufficient foreign capital inflow to drive the country's growth process. However, as foreign earnings increase due to export expansion, domestic production capacity tends to expand, employment level increases, unemployment falls and aggregate demand is boosted and domestic investment expands further (Omojolaibi, Mesagan & Adeyemi, 2015).

To enjoy the benefits of the trade liberalization policy, the Nigerian government adopted this policy in 1986. Since the introduction of trade liberalization, the performance of domestic investment with regard to its contribution to the gross domestic product has been fluctuating (CBN, 2003). Put simply, since the adoption of the liberalization policy in 1986 under the structural adjustment programme, there have been conflicting views on whether or not the liberalization policy has stimulated domestic investment and hence impacted the growth of the Nigerian economy positively.

Importantly, Abomaye-Nimenibo and Inimino (2017) argued that Nigeria's participation in free trade was expected to assist Nigeria increase her export by increasing her domestic investment and achieve sustainable growth at the rate needed to make a visible impact in the reduction of poverty, and unemployment, etc. but this has not been

the case because the share of Nigeria's contribution to world trade is still very low and her exports are predominantly primary products which do not contribute much to output growth when compared to trade on manufactured or finished goods of the developed countries. Therefore, despite several years of accepting free trade policy domestic investment has not increased at the rate needed to make a significant impact in the stimulation of output and improvement in the welfare of inhabitants of Nigeria.

Furthermore, empirical studies on the impact of trade liberalization policy on industrial output or domestic investment have produced conflicting or mixed results. While some studies including Umoru and Eborieme (2013) produce evidence of a meaningful positive impact of trade liberalization policy on both sectoral and aggregate output, others including Ouattara (2004), Masike, Groh and Owie (2008), Saibu (2011), Bibi, Khan and Bibi, (2012) show that trade liberalization has a negative impact on both sectoral and aggregate output (by implication domestic investment), because trade liberalization helps in creating more chances for capital to flow out of the economy. The difference in empirical findings on the impact of trade liberalization on domestic investment is of serious concern, especially in Nigeria. The above state of affairs raised a pertinent question: what is the relationship between trade liberalization and domestic investment. An answer to this question was the major concern of this work because trade liberalization policy has been a burning issue in Nigeria. Therefore, ascertaining whether Nigeria's involvement in international trade boosts or hinders domestic investment is very important. The remaining segments of this paper were organized into literature review, materials and methods, results and discussions, conclusion and recommendations.

2. Literature Review

2.1 The Conceptual Issues

Trade liberalization means a situation where there are no restrictions imposed on goods and services coming into and out of a country. That is, all artificial barriers are removed on the way of international trade. Classical economists were the staunch protagonists of trade liberalization policy which is nothing but an extension of the case for laissez-faire, competitive markets and division of labour. It also makes use of the other conventional assumptions of classical economics. Thus, for instance, it is implicitly assumed that the distribution of income in a free trade economy satisfies the criteria of distributive justice, and that, for this reason, the demand pattern in it conforms to the true needs and aspirations of the society. In other words, by allocating its productive resources in conformity with the pattern of market-demand, such an economy maximizes its social welfare. It is also implicitly assumed that the adjustment process faced by such an economy is always a short-lived and self-correcting one, so that it does not face a persistent problem of unemployment, or instability of incomes and prices. It further assumes that the free-trading economies are compatible with each other and that they are sufficiently flexible and have competitive markets. It is thus evident that the case for free

trade rests on some very stringent assumptions including given productive resources, and given technology. Its collapses if these assumptions are not satisfied.

It is a fact that some degree of specialization with some consequent amount of trade will raise world standards of living (if and when trade is liberalize the global economy stands to benefit from a higher level of welfare). Trade liberalization allows all countries to specialize in the production of commodities in which they have a comparative advantage and thereby to produce more of all commodities than would be available if this kind of specialization had not taken place (if and when trade is liberalized the global economy stands to benefit from a more efficient allocation of resources). According to Ekine (2011), the general gain of international trade is the specialization and consequently the opportunity it affords nations to concentrate their productive efforts on a limited line of products. Expectedly, specialization arising from international trade will contribute to improving the economic well-being (standard of living) of nations.

In brief, trade liberalization makes it possible to maximize world production and makes it possible for every household in the world to consume more goods than it could if free trade did not exist. Trade liberalization encourages healthy competitiveness and innovation among the trading nations. Usman (2011) submitted that international trade increases competition. A company protected from competitors abroad is more likely to have market power, which will give it (i.e., the company) the ability to increase prices above competitive levels. Free trade fosters competition and gives the invisible hand a better opportunity to work its miracle. Put differently, trade improves competitiveness, it helps the developing countries to reduce the cost of inputs, obtain finance through investments, increase the value added of their products and move up the chain of global value. There is abundant evidence to show that real differences in comparative costs do exist and that there are potential gains from trade because of these differences. These advantages cannot be obtained by any nation without their trading freely. It follows, therefore, that each nation should produce goods for which it has a comparative advantage or for which the domestic opportunity costs are lower relative to other nations. It then can trade this product with the nation which produces it at a higher domestic opportunity cost. The transfer of technological advances around the world is often linked to international trade. Since human capacities vary all over the globe, international trade brings about the exchange of goods, ideas, etc. All these ideas and qualities are transported from one country to the other through trade. Put succinctly, trade encourages innovation by facilitating the exchange of know-how, technology and investment in research and development, including through foreign direct investment.

In Nigeria, international trade has assisted in the importation of different types of machinery such as industrial plants, tractors, equipment, etc. Hence, increase her productivity and thus, stimulates economic growth. International trade has also helped in upgrading the socioeconomic value of citizens because, through foreigner's investment, employment opportunities were created. International trade ensures equitable re-distribution of natural resources because natural resources found in one country are used in other countries of the world through international trade. International trade also fosters friendly relationships among the countries of the world.

Since only friendly countries sign trade agreements, every country tries to be friendly with others so that trade can take place between them. It is also a source of revenue. The government realized a lot of revenue through the imposition of different forms of taxes on goods that come into its country from other countries. The concept of trade liberalization, therefore, recognizes a comparative advantage and devoid of measures inhibiting or controlling the flow of trade. Put simply, it is a situation in which nations do not practice protectionism creating barriers that obstruct the free flow of goods and services among nations. But it has to be explained that trade is not wholly free, that tariffs and quotas exist.

According to Inimino, Abuo and Bosco (2018), private domestic investment refers to the production or purchase of investment goods such as industrial plants (i.e., factories and other industrial structures), production equipment (e.g., machinery and tools), and changes in inventories (i.e., goods produced but not jet sold). In macroeconomics, investment refers to that part of total income that is expended on the expansion of the productive capacity of the economy. A demand is described as an investment demand if it is for a good or a service that increases the nation's productivity capacity. Thus, investment demand includes the acquisition of new capital equipment and buildings, i.e., fixed capital formation; the accumulation of increased stocks of production materials, work-in-progress, and finished goods and the acquisition of relevant productive skills and knowledge. In addition, investment spending is determined by a number of factors including the interest rate (i.e., investment is influenced by several factors including the interest rate).

2.2 Absolute Advantage Trade Theory

Adam Smith advocated free trade as the best policy for the nations of the world. In his well-known book titled "Wealth of Nations" written in 1776. Smith postulated that with free trade each nation could specialize in the production of those commodities in which it has an absolute advantage and import those commodities in which it has an absolute disadvantage. According to Smith, nations that have an absolute advantage in producing a certain item can specialize in producing it for trading. This trade would be advantageous to both the exporter and importer. In this sense, Robinson (2003) submits that with specialization, the output of goods and services in the world will increase which could be shared by trading nations. Meaning that all nations involved in external trade could gain simultaneously.

Nevertheless, Adam Smith's trade theory was built on the following assumptions: 2 x 2 x 1 model (2 countries – 2 goods – 1 factor of production i.e., labour), homogeneous goods, labour is homogeneous within a country but heterogeneous across countries, complete mobility of labour in the country and complete immobility of labour across the country, no transportation costs, full employment, production technology differences exist across industries and across countries and are reflected in labour productivity parameters, the labour and goods markets are assumed to be perfectly competitive in both countries, firms are assumed to maximize profit while consumers (workers) are assumed to maximize utility.

The basic idea of this theory is that the biggest and the natural advantages of the international division of labour occur when countries specialize in producing those goods that they can produce with the lowest overall costs and import goods that other countries produce at the absolute lowest costs. However, trade on the basis of absolute advantage, although feasible, has its flaws. In this sense, Robinson (2003) argued that the absolute advantage theory has been criticized on the grounds where one country has an absolute advantage in the production of both commodities the theory of absolute advantage collapses. In contrast to the assumption of the theory, labour is empirically mobile in international transactions. Also, the theory does not explain how the benefits of external trade filter the citizens in society through adequate investment (Abomaye-Nimenibo & Inimino, 2017).

2.3 Comparative Advantage Trade Theory

This is one of the oldest theories in economics and was propounded by the English philosopher David Ricardo around 1815. In this theory, Recardo was reacting to an earlier theory - the absolute advantage theory propounded by Adam Smith. The logic behind trade between nations is not fully explained by absolute advantage. This is because any nation that has an absolute advantage in the production of all items could refuse to trade with other nations. Internal trade would be preferred to international trade. This implies that the ultimate logic for trade is not an absolute advantage but a comparative advantage. The theory of comparative advantage does not undermine Smith's absolute advantage analysis, but tries to remove some of the flaws inherent in the theory. For instance, the absolute advantage theory could not explain a situation whereby a country has an absolute advantage in the production of two goods and if the trade will still be necessary or beneficial to such a country. The aim of comparative advantage theory was to show that mutually advantageous trade could still take place between two nations even if a nation had an absolute advantage in the production of every commodity traded with respect to the other nations. The theory of comparative advantage states that a country will gain from international trade if it specializes in the production of a specific commodity in which it uses a lower opportunity cost than its trading partner (Gbosi, 2011). That is, a country should specialize in the production of those commodities which makes the most efficient use of its scarce resources (for which the opportunity cost is the lowest).

Ricardo illustrated this by analyzing the advantages of trade between England and Portugal. But in this study, we use Nigeria and Ghana for our analysis of this important concept.

Table 1: Illustrating Comparative Advantage of Trade

Country	Rice (million tonnes)	Yams (million tonnes)
Nigeria	80	40
Ghana	30	30

Source: Author's computation.

An inspection of the above table shows that Nigeria has an absolute advantage in the production of both rice and yams. Despite this, there is still a compelling economic reason for Nigeria to engage in trade. This is the logic of comparative cost advantage. It was Ricardo who demonstrated that it is comparative advantage, not an absolute advantage that prompts trading. It is clear from Table 1 that if Nigeria devotes all her resources to rice production, she would produce 80 million tonnes of rice. The implication is that the opportunity cost of producing 80 million tonnes of rice is giving up 40 million tonnes of yams. Consequently, the domestic exchange ratio between yam (Y) and rice (R) in Nigeria is 80R: 40Y, or more simply, 2R:1Y. As for Ghana, its domestic exchange ratio or opportunity cost is 30 million tonnes of rice to 30 million tonnes of yam or 1R:1Y. Nigeria's and Ghana's domestic exchange ratios can be summarized as follows: Nigeria-2R:1Y and Ghana-1R:1Y.

Since domestic exchange ratios reflect opportunity costs, it is clear that Nigeria produces rice with lower opportunity costs than Ghana. More formally, we say that Nigeria has a comparative cost advantage over Ghana in the production of rice. For instance, a unit (tone) of rice (R) in Nigeria can be exchanged for half a tonne of yam (1/2Y) in Ghana. Ghana, on the other hand, has a comparative advantage in the production of yams. This is because her opportunity cost ratio is lower than that of Nigeria: 1 yam unit in Ghana exchanges for 1 unit of rice while 1 unit of yam in Nigeria exchanges for half a unit of rice (1/2R). According to Ricardo, nations should specialize in producing those commodities for which they have a greater comparative cost advantage and then trade them freely. Following the Ricardian principle, Nigeria should specialize in rice production and Ghana in yam production. Trade between the two countries will not only benefit them but also the world. In this sense, free trade (trade liberalization) will lead to gains for the trading partners. These include an increase in price for the exporters, a decrease in the price of imported items, an increase in the volume of goods produced and an increase in the volume and variety of goods consumed (Umo, 2012). Interestingly, Abomaye-Nimenibo and Inimino (2017) argued that if theories, like girls, could win beauty contests, comparative advantage theory would certainly rate high because it was elegantly logically structured and was considered to be most appropriate in the explanation of international trade. Therefore, this study hangs on this theory in the investigation of the influence of trade liberalization and domestic private investment in Nigeria.

In addition, the new growth theory emphasizes the role of trade and foreign direct investment as the major drivers of output growth. Put succinctly, the new growth theory model introduced by Romer (1986) and Lucas (1988) which argued that open economies (those with trade, foreign investment, etc.) will experience income convergence at higher levels as capital flows from rich countries to poor countries where capital-labour ratios are lower and thus returns on investment are higher. In addition, openness will encourage greater access to foreign production ideas that can raise the rate of technological progress.

Trade liberalization increases capital inflow which takes numerous forms like foreign direct investment which is an essential source through which capital flows into a

country. Capital inflows will increase the level of investment in the economy which guides the economy towards more production, more output and increases in the size of the market. Inflows of capital will also provide developing economies access to new technological innovations of developed countries. It will make it possible for both consumers and producers to have easy access to larger markets so they can enjoy the benefits of economies of scale. Another meaningful impact of trade liberalization operates through knowledge and technology transmission. Therefore, trade liberalization has the ability to enhance efficiency and productivity through knowledge and technology spillover which will help domestic exporting firms enter the foreign market or compete with foreign firms, eliminating inefficiency and producing high-quality goods at low cost.

2.4 Empirical Literature

Only a handful of scholars have investigated the influence of trade liberalization on domestic private investment. For instance, Harrison (1990) carefully examined the effect of trade liberalization in Cote d'Ivoire using a sample of 287 firms. The study produced mixed results. It shows evidence of a positive impact for some firms and a negative impact for some others. Mixed results were also documented in Osabuohien (2006) for Nigeria and Ghana. The study employed annual data for both countries covering the period 1975-2004. Data were processed using the co-integration and error correction models.

Krueger (1997) examined the relationship between trade policy and economic development. The study documents evidence of a positive relationship between economic growth and trade openness. Edwards (1992) investigated the relationship between trade orientation, distortions, and growth in developing economies. He finds evidence of a positive relationship between trade openness and economic growth.

Busari and Fashumu (1998) examined the impact of trade policy on private investment in Nigeria using 67 firms from 1980 -2003. The study observed that trade policy practice in Nigeria has deterred investment by raising the cost of imports, thus affecting import-dependent firms. This is in addition to the uncertainty in the real exchange rate especially as it concerns firms that are import intensive.

Rodriguez (2000) studied the effect of trade openness on the output performance of an open economy using 1996 data from 106 countries. Employing the methodology of the ordinary least squares estimation technique, he finds strong empirical support for a positive relationship between per capita GDP and trade openness.

Udegbunam (2002) examined the influence of trade openness on industrial output growth in Nigeria using data spanning 1970-1997. With the aid of regression analysis the researcher found out that trade openness is a major determinant of industrial output growth in Nigeria.

Masike, Groh and Owie (2008) examined the effect of trade liberalization on rubber production in Nigeria using data for the period 1960-2004. They find evidence that trade liberalization reduced the growth of rubber production during the period. Saibu (2011) engaged the VAR analytical technique to estimate the effectiveness of trade policy

shocks on sectoral and aggregate output growth. The researcher found out that trade openness has a negative impact on both sectoral and aggregate output. The result further shows that monetary policy shocks have significant positive effects on the manufacturing, service and industrial sectors. Also, he finds that fiscal policy exerts a significant positive impact on agricultural output.

Frimpong and Marbuah (2010) found that in the long and short run real GDP, public investment, credit to the private sector, inflation, real interest rate, real exchange rate and regime of the constitutional rule have a positive effect on private investment in Ghana, while openness affects it negatively because trade liberalization leads to the rise in the foreign competition of domestic private investors which affect private investment negatively.

Bakare and Fawehinmi (2011) investigated the impact of trade openness on industrial output. They find that public domestic investment, savings rate, capacity utilization and infrastructure have a negative impact on industrial output performance in Nigeria.

In the year 2012, Bibi, Khan and Bibi found out that trade openness negatively affected domestic investment in Pakistan, because trade openness assisted in creating more opportunities for capital to be flown out of the economy. Ajide and Lawanson (2012) also found that real gross domestic product, the rate of interest, credit to the private sector, terms of trade, and reforms dummy have a positive impact on private investment in Nigeria. However, the exchange rate has a positive impact on domestic investment in the long run and a negative impact in the short run.

Mathias, Wayanwu, Drenkat and Shi (2012) argued that the textile industry in Nigeria is the third largest in Africa after Egypt and South Africa. It is the largest employer of labour in the manufacturing sector. The industry is mainly controlled by large private-sector firms, often with substantial foreign participation. Low productivity levels limit Nigeria's export possibilities. Nevertheless, the substantially liberated economic environment and the opportunity Nigeria offers to avoid quota restrictions under the Multi Fibre Agreement (MFA), which is not applicable to Nigeria have induced some foreign entrepreneurs, mostly from Asian countries, to establish export-oriented plants. The bilateral trade between Nigeria and China has grown steadily since 1971 as the volume of trade between the two countries in 2009 hit $6.373 billion. In order to evaluate the influence of higher imports over exports on the textile industry and the aggregate economy, a structural model was constructed with market equilibrium identity, such that the total supply of agricultural, industrial, and oil sectors equal aggregate demand. The influence of imports on other macroeconomic variables was tested using nth order vector-regressive model. The study concluded that more private investments are highly needed in the Nigerian textile industry to make it internationally competitive.

Umoru and Eborieme (2013) investigated the influence of trade liberalization on industrial growth in Nigeria using annual data on industrial output growth, capital stock, exchange rate, and trade liberalization. They adopted the co-integration and error

correction analytical techniques and find a significant positive impact of trade liberalization on industrial output growth in Nigeria.

Omojolaibi, Mesagan and Adeyemi (2015) explored the association between non-oil export and domestic investment in Nigeria from 1980 to 2011. The error correction model was estimated in determining how non-oil export impacts domestic investment and the Granger causality test was conducted to determine the causal relationship among the variables. The findings revealed that the impact of non-oil export on domestic investment was positive but insignificant. The insignificance is a result of the monocultural nature of production skewed towards the oil sector, although the positive coefficient shows that a lot of prospects still exist in the sector. Also, the findings revealed that while domestic investment granger causes non-oil export, non-oil export did not granger cause domestic investment. Baghebo and Koginam (2015) analyzed private investment behaviour in eras of trade policy reforms in the country using annual time series data. A dummy variable of one was used to represent trade policy reforms from 1986-2003 and 0 to represent other years. The stationary status of the data series was investigated. The ordinary least square regression was used to determine the impact of trade policy on private investment behavior. The reaction of private investment to trade policy was very slow. This could be as a result of the lack of credibility and sustainability of trade policies experienced by investors over the years. Investors may prefer a "wait and look attitude". Causality runs unidirectional from trade policy to private investment.

Paul and Milanzi (2016) investigated economic growth, foreign direct investment, trade, and domestic investment in Tanzania: Cointegration and causality analyses of investment, trade, and economic growth are highly interrelated variables. Investment can influence growth, but growth can also influence investment, especially foreign direct investment. Similarly, trade openness can affect both economic growth and investment, whereas economic growth can also influence trade. In view of this, the direction of causality may not be easily predetermined. The researchers examined these variables to ascertain the causal relationships using annual time series data from 1970 to 2012 collected from various publications of Tanzania's National Bureau of Statistics, United Nations statistics division, and the African Development Bank. All variables were not stationary at their level forms but were stationary at the first difference, hence they were integrated of order one I(1). Subsequently, they performed Johansen's test of cointegration to determine the long-run relationship. The test identified two cointegrating vectors in the system indicating the existence of long-run equilibrium relationships. The presence of long-run relationships among the variables also indicated the existence of causal relationships. Then, the researchers performed the Granger causality test whose results revealed strong support for the FDI-led exports, export-driven FDI, growth-driven FDI, export-led growth, and growth-driven exports hypotheses for Tanzania. The study also discovered that domestic investment causes economic growth in Tanzania suggesting that public policies should encourage domestic investment.

Okoye, Nwakoby and Okorie (2016) examined how changes in important economic indicators - exchange rate, financial deepening, trade openness and lending

rate account for the trend in output performance of Nigeria's industrial sector in the post-reform period. Data over the period 1986-2014 were analyzed using an econometric technique based on the Vector Error Correction Model. The study revealed that rate of variation in exchange rate, trade openness and lending rate have a meaningful negative influence on industrial output. Also, evidence of a significant positive impact of financial deepening on industrial output was discovered. The Granger causality estimate revealed a weak causal influence of financial deepening on industrial output as well as bi-directional causation between trade openness and industrial output. There is also confirmation of the causal impact of industrial output on lending rate, an indication that industrial development generated demand for financial resources.

3. Materials and Methods

This study used secondary data spanning 1981 to 2020. Specifically, this study sourced annual time series data on domestic private investment, trade openness, exchange rate and interest rate from the statistical bulletin of Nigeria's apex bank – the Central Bank of Nigeria (CBN) from 1981 to 2020. Furthermore, the researcher would have loved to cover from 1960 when Nigeria gained independence from Great Britain to 2022 but because of the paucity of data, the researcher decided to cover the period data were available. Therefore, the period 1981 to 2020 was chosen because of the paucity of data.

3.1 Model Specification

The model adapted for this study was derived from a similar work by Okoye, Nwakoby and Okorie (2016) with slight modifications to suit the purpose of this study. Okoye, Nwakoby and Okorie (2016) used some key economic indicators like exchange rate, financial deepening, trade openness and lending rate account for the trend in output performance of Nigeria's industrial sector using Vector Error Correction method of econometrics. The modified version of the model, however, expressed domestic investment as a function of trade openness, exchange rate and monetary policy rate. The implicit representation of the model is expressed as:

$$DI = F(TOP, EXR, MPR) \quad (1)$$

The log form of equation (1) produced;

$$LnDI_t = \psi_0 + \psi_1 LnTOPt + \psi_2 LnEXRt + INR\ \psi_3 + \varepsilon_t \quad (2)$$

Where; DI is domestic private investment, TOP is trade openness, EXR s exchange rate, INR is the interest rate (monetary policy rate), ε is *the* error term which denotes other variables not included in the model, Ln is natural log, *t* is the period of time and ψ_0 is the intercept. The parameter estimates are expected to behave in line with ψ_1 and $\psi_2 > 0$; while $\psi_3 < 0$.

3.2 Techniques of Data Analysis

Autoregressive Distributed Lag (ARDL) Bounds Test was used in this study as the main analytical technique. Before the ARDL Bounds test, the Augmented Dickey-Fuller (1979) test was employed to understand the stationary of the series. The general form of ADF is estimated by the following regression

$$\Delta y_t = \alpha_0 + \alpha_1 y_{t-1} + \Sigma\alpha_1 \Delta y_i + \delta_t + u_t \quad (3)$$

Where: y is a time series, t is a linear time trend, Δ is the first difference operator, α_0 is a constant, n is the optimum number of lags in the independent variables and u is a random error term. Afterwards, this study employed Autoregressive Distributed Lag Bounds testing method to co-integration developed by Pesaran and Shin (1999). Unlike other co integration test, bounds test is applicable irrespective of whether the variables included in the model are I(0) or I(1) or a mixture of those. However, the technique is not appropriate in the presence of I(2) series. Therefore, before employing the Bounds Test it was necessary to test for the level of integration of all the variables of interest by using the ADF Test. The test to find out if the variables in this study are co-integrated or have long-run relationship was done by computing the Bounds F-statistic (bound test for co-integration). The null hypothesis of no co-integration is rejected when the value of the test statistic exceeds the upper critical bounds value, while it is not rejected if the F-statistic is lower than the lower bounds value. Otherwise, the co-integration test is inconclusive. The Autoregressive Distributed Lag (ARDL) method was employed in order to capture the long-run as well as the short-run dynamic relationship among the variables. Therefore, the ARDL model is written as follows:

$$\begin{aligned}\Delta LnDI_{t,j} = {} & b_0 + b_1 LnDI_{t-1,j} + b_2 LnTOP_{t-1,j} + b_3 LnEXR_{t-1,j} + b_4 INR_{t-1,j} \\ & + \sum_{i=1}^{n1} a_{1i,j} \Delta LnDI_{t-1,j} + \sum_{i=0}^{n2} a_{2i,j} \Delta LnTOP_{t-1,j} + \sum_{i=0}^{n3} a_{3i,j} \Delta LnEXR_{t-1,j} \\ & + \sum_{i=0}^{n4} a_{4i,j} \Delta INR_{t-1,j} + \mu_t \end{aligned} \quad (4)$$

The vector error correction model is specified as follows:

$$\begin{aligned}\Delta lnDI_{t,j} = {} & b_0 + \sum_{i=1}^{n1} a_{1i,j} \Delta LnDI_{t-1,j} + \sum_{i=0}^{n2} a_{2i,j} \Delta LnTOP_{t-1,j} + \sum_{i=0}^{n3} a_{3i,j} \Delta LnEXR_{t-1,j} \\ & + \sum_{i=0}^{n4} a_{4i,j} \Delta INR_{t-1,j} + \lambda ECMt - 1 + \mu_t \end{aligned} \quad (5)$$

Where Δ is the difference operator while εt is white noise or error term, n is the optimal lag length, $\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5$, represent the short run dynamics of the model and b_1, b_2, b_3, b_4, b_5, are the long run elasticities and μ_t is the error term. ECM_{t-1} is the error correction term obtained from the co-integration model. The error coefficients (λ_1) show the rate at which the co-integration model corrects its previous period's disequilibrium or speed of adjustment to restore the long run equilibrium relationship. The coefficient of ECM is expected to be negative and statistically significant. A negative and significant ECM_{t-1} coefficient implies that any short run movement between the dependent and explanatory variables will converge back to the long run relationship.

4. Results and Discussion

This study examined trade liberalization and domestic private investment in Nigeria from 1981 to 2020. Therefore, an econometric model was constructed. The model has domestic private investment (DI) as the dependent variable while trade openness (TOP), exchange rate (EXR) and interest rate (INR) are the independent variables. See Tables one to five and Figure one for the various regression results and post estimate test results.

Table 2: Augmented Dickey-Fuller (ADF) Unit Root Test

Variables	Level form		First difference		Order of integration
	ADF Statistics	5% Critical Value	ADF Statistics	5% Critical Value	
TOP	-0.522269	-2.938987	-3.661485	-2.945842	1(1)
EXR	-0.680567	-2.938987	-3.052868	-2.945842	1(1)
INR	-3.256662	-2.938987	-	-	1(0)
DI	5.478003	-2.963972	-6.026402	-2.945842	1(1)

Note: TOP, EXR, INR and DI as earlier defined
Source: Authors' Computed Result from (E-views 10)

The result of the ADF test for each of the series presented in Table 2 reveals that at five per cent level of significance, TOP, EXR and DI were stationary at first difference 1(1) as their respective ADF statistics are greater than 5 per cent critical values, while INR was stationary at level 1(0). Given that the variables were integrated of order 1(0) and 1(1). The requirement to fit in an ARDL model to test for long run relationship is satisfied.

Table 3: ARDL Bounds Test for Co-integration

Model		**F-Statistic** = 6.900192
DI = F(TOP, EXR, INR)		**K** = 4
Critical Values	**Lower Bound**	**Upper Bound**
10%	2.37	3.2
5%	2.79	3.67
1%	3.65	4.66

Source: Authors' Computed Result from (E-views 10).

The result of the ARDL bounds test for co-integration reveals that there is a long run relationship amongst the variables (DI, TOP, EXR and INR). This is because the computed F-statistic of about 6.900192 is higher than the upper critical bounds at 5% critical value. This provided evidence to reject the null hypothesis of no co-integration at 5% significance level for the domestic private investment (DI) model. Following the establishment of long-run co-integration relationship among the variables, the long-run and short-run dynamic parameters for the variables were obtained.

Table 4: Estimated ARDL Long Run Coefficients. Dependent Variable: DARDL(4, 0, 0, 0)

Regressors	Coefficient	t-Statistic	P-Value
LOG(TOP)	0.960889	1.775499	0.0867
LOG(EXR)	0.363995	0.569073	0.5738
INR	-0.102924	-1.416598	0.1676

Source: Authors' Computed Result from (E-views 10).

The estimated ARDL long run coefficients reveal that in the long run, trade openness and exchange rate have positive relationship with domestic private investment in Nigeria. However, interest rate has negative relationship with domestic private investment in Nigeria. Shockingly, none of the variables is statistically significant at conventional level. This means that in the long run, liberalization policies will influence domestic private investment in Nigeria but not meaningfully.

Table 5: Error Correction Representation for the Selected ARDL Model ARDL(4, 0, 0, 0,)

Regressors	Coefficients	t-Statistic	P-Value
LOG(TOP)	0.315239	1.677153	0.1046
LOG(EXR)	0.119416	0.552408	0.5851
INR	-0.033766	-1.307185	0.2018
ECM (-1)	-0.328070	-6.279305	0.0000
R-squared = 0.704213 Adjusted R-squared = 0.676483	Durbin-Watson stat = 2.297620	Hannan-Quinn criter = 1.338405	

Source: Authors' Computed Result from (E-views 10).

Table 5 shows the result of the short-run dynamic coefficients associated with the long-run relationships obtained from the ECM equation. The Error Correction Term in the model has the right sign (i.e., negative) and statistically significant. This indicates adjustment to long-term equilibrium in the dynamic model. Put differently, it indicates it adjustment from short run equilibrium to long-run equilibrium in the dynamic model. This implies that deviations from the short-term in domestic private investment adjust quickly to long run equilibrium. The Durbin Watson (DW) value of 2.297620 which is approximately 2.0, suggests that the model is free from autocorrelation. The R^2 of 0.704213 also revealed the good fit of the model.

As expected, the coefficients of trade openness, exchange rate and interest rate appeared with the right signs (i.e., positive, positive and negative respectively) based on economic theory. Thus, a percentage increase in openness of trade and a naira unit of

devaluation in exchange rate will increase domestic private investment by 0.315239% and 0.119416% respectively. Also, a percentage increase in interest rate will reduce domestic private investment by 0.033766%. The positive sign displayed by the coefficient of trade openness affirmed the empirical finding of Bibi, Khan and Bibi (2012) that openness of trade has a positive impact on private investment in Nigeria. Surprisingly, trade openness, exchange rate and interest rate are not statistically significant at conventional level. Therefore, it was concluded that there is no significant relationship between trade openness, exchange rate, interest rate and domestic private investment in Nigeria during the period of study. The insignificant relationship between trade openness, exchange rate, interest rate and domestic private investment reflect the ineffectiveness of the variable (i.e., trade openness, exchange rate and interest rate) as an important conduct in transmitting trade and monetary policies impulses to the aggregate economy thereby increasing domestic private investment meaningfully. This also means that trade and monetary policies towards increasing domestic private investment has not been well articulated and coordinated towards increasing domestic private investment in the country from 1981 to 2020 based on the model. At the same time, the result revealed that though policies regarding trade openness, exchange rate and interest rate have impacted on domestic private investment but they have lesser influence to spur or trigger a meaningful increase in domestic private investment in Nigeria during the period of study. The result also revealed that the variables such as trade openness, exchange rate and interest rate have the potentials to adjust to stable long run relationship or equilibrium with domestic private investment.

Table 5: Post Estimation Test

Post estimate test was employed to examine the reliability of the estimated model for prediction or policy purposes. Specifically, the Wald test was applied. The result of this test is reported Table 6.

Table 6: Wald Test Result

Wald Test:			
Equation: Untitled			
Test Statistic	**Value**	**Df**	**Probability**
F-statistic	1212.994	(5, 28)	0.0000
Chi-square	4851.975	4	0.0000

Source: Authors' Computed Result from (E-views 10).

The result in Table 6 shows that the F-statistic is approximately 1213 and the probability value of 0.0000 is less than 0.05 at the conventional 5 per cent level. Therefore, all the explanatory variables included in the estimated model are jointly significant in explaining domestic private investment (DI) in Nigeria over the data period.

5. Conclusion and Recommendations

Trade among countries has long been the focus of neo-colonial and modern growth theories. It has been described as an engine of output growth and has tremendous benefits to all countries. Such benefits include increase in acquisition of new ideas and technology which in turn will stimulate domestic investment and increase in the production of goods and services. The study on trade liberalization and domestic private investment in Nigeria from 1981-2020 is of great important. This is because nations, like individuals, find it economically beneficial to engage in exchange transactions (trade) amongst themselves. With the utilization of data on domestic private investment, trade openness, exchange rate and interest rate sourced from the statistical bulletin of Nigeria's apex bank and the adoption of the ARDL method of econometrics to capture the short and long-run relationship between endogenous and exogenous variables. The results revealed that trade openness and exchange rate have a positive and insignificant relationship with domestic private investment both in the long and short runs. At the same time, the interest rate has a negative relationship with domestic private investment both in the long and short runs. Therefore, it was concluded that there is no significant relationship between trade openness, exchange rate, interest rate and domestic private investment in Nigeria during the period of study. Nigeria has not benefited much from foreign trade arising, largely, from the un-competitiveness of domestic goods and services occasioned by low domestic investment, low quality of goods and services, high prices relative to foreign-produced goods and a concentration on primary products, as well as non-diversification of the economic base. As a result, the study recommended that government should formulate trade policies that will encourage the growth of domestic private investment in Nigeria. To achieve this, government should ensure consistency in trade policies and at the same time strengthen the existing policies to build investors' confidence. Also, government should make available an investment-friendly environment, as well as monitor real sector operators to ensure that foreign exchange allocations are not diverted. Government should increase expenditures on education, housing, transportation, agriculture, health, power, road construction, national defense, among others that will help the various sectors of the economy to function very well thereby making the business environment friendly thereby enhancing the growth and development of the country.

Conflict of Interest Statement

The author declares no conflicts of interest.

About the Author

George-Anokwuru, Chioma Chidinma (PhD) is a senior lecturer in the department of economics, University of Port Harcourt, Port Harcourt, Rivers State, Nigeria. Her teaching-research interests are in the areas of monetary and international economics. She has more than fifty publications to her credit in these broad areas. In addition, she is an

economic-management consultant to various private organizations. She actively participates in local and international conferences.

References

Abomaye-Nimenibo, W. A. S. & Inimino, E. E. (2017). International Trade and Economic Growth in Nigeria (1980- 2014). *Journal of Social Sciences and Public Policy*, 9(1), 1-23.

Ajide, K. B., & Lawanson, O. (2012). Modelling the Long Run Determinants of Domestic Private Investment in Nigeria. *Asian Social Science*, *8* (13), 139-152.

Asongo, A. I., Jamala, C. Y. & Waindu, C. (2013). Impact of Trade Liberalization on the Performance of the Manufacturing Sector in Nigeria (1989 To 2006). *Journal of Economics and Finance*, 2(2), 17-22.

Baghebo, M. & Koginam, O. A. (2015). Trade Policy and Private Investment Behaviour in Nigeria: 1980-2013**.** *American International Journal of Social Science,* 4(3), 65-71.

Bakare, A. S. & Fawehinmi, F. O. (2011), Trade openness and its impact on Nigeria's non-oil industrial sector, *Economics and Finance Review*, 1 (5), 57-65.

Bibi, S., Khan, U. A., & Bibi, A. (2012). Determinants of Investment in Pakistan. *Academic Research International*, *2* (2), 517-524.

Busari, T. D. & F. O. Fashamu (1998). Macroeconomic Policy Regimes and Private Investment in Nigeria 1960 – 1994. *African Journal of Economic Policy*, 5 (1), 61-78.

Central Bank of Nigeria (2003). Contemporary Economic Policy Issues in Nigeria, Abuja.

Echekoba, F. N., Okonkwo, V. I. & Adigwe, P. K. (2015). Trade Liberalization and Economic Growth: the Nigerian Experience (1971-2012). *Journal of Poverty, Investment* and development, Vol.14, pp. 51-72.

Edwards, S. (1992), Trade orientation, distortions and growth in developing economies, *Journal of Development Economics*, 39 (1), 31-57.

Ekine, N. T. (2011). *Macroeconomics: Dimensions of competitive indicators and policy performance*. Port Harcourt: Dominus printing Co.

Frimpong, J. M., & Marbuah, G. (2010). The Determinants of Private Sector Investment in Ghana: An ARDL Approach. *European Journal of Social Sciences*, 15 (2), 250-261.

Gbosi, A. N. (2011). *International Trade in Theory and Practice*. Port Harcourt: Amethyst & Colleagues Publishers.

Harrison, A. (1990), Productivity, imperfect competition and trade liberalization in Cote d' Ivorie, *World Bank PPR Working Papers* 1 WPS 451.

Iheanacho, E. (2017). ARDL Approach to Trade Liberalization and Economic Growth in the Developing Country: Evidence from Nigeria. *An International Multi-Disciplinary Journal, Ethiopia* 11 (2), 138-159.

Inimino, E. E., Abuo, M. A. & Bosco, I. E. (2018). Interest Rate and Domestic Private Investment in Nigeria. *International Journal of Research and Innovation in Social Science,* 2(10), 198-206.

Jhingan, M. (2007), *Money, Banking and International Trade*. Vrinda Publications Ltd., Delhi.

Krueger, A. (1997). Trade Policy and Economic Development: How We Learn; *American Economic Review,* 87 (1), 1-22.

Masike, C. S., Groh, D. Y. & Owie, O. E. D. (2008). Analysing the Effort of Trade Liberalization Policy on Nigerian Rubber Industry, *Journal of Agriculture and Social Science*, 4: 132-134.

Mathias, A. E., Wayanwu, J. O., Drenkat, N. K. & Shi, L. R. (2012). Impact of foreign trade and investment on Nigeria's textile industry: The case of China. *Journal of African Studies and Development*, 4(5), 130-141.

Okoye, L. U., Nwakoby, C. I. N. & Okorie, E. U. (2016) Economic Openness and Industrial Development in Nigeria. *Journal of Policy and Development Studies, 10(1), 12-26.*

Omojolaibi, J. A., Mesagan, E. P. & Adeyemi, O. S. (2015) The Impact of Non-Oil Exports on Domestic Investment in Nigeria. *The Empirical Econometrics and Quantitative Economics Letters ISSN 2286 – 7147 © EEQEL all rights reserved Volume 4, Number 3 (September 2015): pp. 15 – 29.*

Osabuohien, E. S. C. (2006). Trade Openness and Economic Performance of ECOWAS members – Reflections from Ghana and Nigeria. *African Journal of Business and Economic Research*, 2 (2), 217-219.

Ouattara, B. (2004). *Modelling the Long Run Determinants of Private Investment in Senegal.* University of Nottingham: Centre for Research in Economic Development and International Trade, CREDIT Research Paper No. 04/05.

Paul, F., & Milanzi, M. (2016). Economic growth, foreign direct investment, trade, and domestic investment in Tanzania: Cointegration and causality analyses. *American Journal of Academic Research, 1*, A48-A69.

Pesaran, M. H. & Shin, Y. (1999). An Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis. *Econometrics and Economic Theory in the 20th Century: The Ragnar Frisch Centennial Symposium*, Strom, S. (ed.) Cambridge University Press.

Robinson, M. O. (2003). *International Economics.* Port Harcourt: Harey Publications Company.

Rodriguez, C. A. (2000). On the degree of openness of an economy, sourced from www.coma.edu.ar./u/car/Advantage.pdf, April 10, 2015.

Romer, P. M. (1986). Increasing Returns and Long-Run Growth. *The Journal of Political Economy*. 94(5), 1002-1037.

Saibu, M. O. (2011). Sectoral Output Responses to Trade Openness, Oil Price and Policy Shocks in Nigeria: A CVAR approach. *Journal of Social and Development Sciences*, 2: 48-59.

Udegbunam, R. I. (2002). Openness, Stock Market Development and Industrial Growth in Nigeria, *Pakistan Development Review*, 41 (1), 69-92.

Umo, J. U. (2012). *Economics: An African Perspective 2nd Edition*. Millennium Text Publishers Limited Plot 6B, Block 22, Humanities Road, Unilag Estate, Magodo, Isheri, Lagos, Nigeria.

Umoru, D. & Eborieme, M. (2013). Trade Liberalization and Industrial Growth in Nigeria *Journal of Poverty, Investment and Development*, Vol.1, pp. 148-156.

Usman, O. A. (2011). Performance evaluation of foreign trade and economic growth in Nigeria; *Research Journal of Finance and Account. 2*(2), 47-63.