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EXPORT DIVERSIFICATION AND MANUFACTURING SECTOR PERFORMANCE IN NIGERIA

Callistus Ogu

Department of Economics, Faculty of Social Sciences, Imo State University, Owerri, Nigeria.

callistusogu@imsu.edu.ng

ABSTRACT: The study examined the effect of export diversification on manufacturing sector performance in Nigeria for the period of 1981 to 2021. The specific objective was to investigate the relationship between Extensive Margin Export Diversification with Share of Manufacture product on total exports in Nigeria; secondly to determine the relationship between Intensive Margin Export Diversification with Share of Manufacture product on total exports in Nigeria. the variables used are; Share of Manufacture product on total exports in Nigeria as the dependent variable, while Extensive Margin Export Diversification index, Intensive Margin Export Diversification index, with control variables like Gross Fixed Capital Formation and Labor participation rate, serves as the independent variable. The data was sourced from International Monetary Fund (IMF) export diversification and quality databases. However, due to the nature of the unit root test which comprises of ADF and PP test, of mixed order of integration, ARDL statistical techniques was applied in analysing the data. From the result, it was deduced that, Extensive Margin Export Diversification possessed a positive and insignificant relationship with Share of Manufacture product on total exports in Nigeria; Intensive Margin Export Diversification possessed a negative and significant relationship with Share of Manufacture product on total exports in Nigeria and the control variables also showed that, Gross Fixed Capital Formation possessed a negative and significant relationship with Share of Manufacture product on total exports in Nigeria; Labor participation rate possessed a positive and insignificant relationship with Share of Manufacture product on total exports in Nigeria. It was recommended that, Policies that will encourage different sectors in the manufacturing component to also diversify in order to boost productivity in the country and expanding of exports to new products or new markets (extensive margin) in Nigeria; There is need to balanced mix of existing products (intensive margin) in Nigeria before exporting them because by so doing it will improve variety of product being exported and in the long run it will improve manufacturing export product performance.

Keywords: Export Diversification, Manufacturing Sector Performance, Extensive Margin, Intensive Margin, Gross Fixed Capital Formation, Labor Participation

INTRODUCTION

The Nigerian economy was dominated by commercial activities and exports prior to independence in 1960 as there was no viable industrial sector. After independence, agricultural activities served as the pivot around the sustenance of the Nigerian economy. Agriculture showed its efficacy by contributing to the GDP by 65% despite the swings in world prices (Jide, 2017). Thus, it was through Agriculture that revenues were raised that facilitated the importation of capital goods and raw materials from foreign nations through international trade. Sufficient food was produced by peasant farmers which were enough not only for domestic consumption but for export as well; and there were also infrastructural developments by the

governments through the surplus realized from the marketing boards for prospective economic advancement. The policy was formulated to improve export activities as a means of guaranteeing development.

Post-civil war, there was a switch in the export structure as activities migrated from agriculture-based to oil-based, implying a gross and significant reduction in the contribution of the agricultural sector to the economy. As a means of protecting the economy due to the threats from the fluctuations of world oil prices, and as a means of boosting large-scale exports of agricultural products, the government eliminated taxes on the export and sales of agricultural commodities. However, high import tariffs were imposed as a means of discouraging imports for domestic agricultural productivity to thrive.

Oyedije (1986) explained that this approach was adopted in between earlier periods of 1970 and 1980. With the production of oil in large commercial quantities, high oil prices between 1976 and 1981 meant that the government's foreign earnings from oil exports increased. Exports earnings from agricultural (which used to be the bedrock of the economy) were dwarfed by earnings from oil exports. Consequently, the government expanded and some physical infrastructures such as roads, airports, seaports, shipping lines, and a national electricity power grid system, etc., were built.

The ensuing problems far outweighed the benefits. Oil exploration led to environmental degradation and devastation in the Niger Delta region, oil wealth also demobilized the Nigerian people. The agricultural (which once was the bedrock and pivot around which other sectors rallied) began attracting lesser government attention, thereby leading to its neglect. Local production of goods and services plummeted; rapid urbanization led to slum development and crime. Massive importation and consumption of foreign goods turned Nigeria into a huge market for foreign producers. This led to massive unemployment, underemployment and poverty rates which are worsened by population explosion. The mismanagement of the agricultural sector coupled infrastructural problems saw a decline in the Nigerian export prowess of cash crops (e.g. groundnut, cashew, cocoa, timber, oil palm, rubber, among others). Although before the oil boom in 1970, these agricultural products constituted a significant portion (70%) of Nigeria's export commodities.

In recent times, Nigeria is no longer considered a strong nation when it comes to the exports of some agricultural products (e.g. groundnut, rubber, cocoa and palm oil). An intriguing fact is that Nigeria has fallen down in the pecking order as the largest producer of poultry in Africa, with production dropping from 40,000,000 birds annually to a meagre 18,000,000 birds (Daily Independent, 2015). Agriculture has been relegated through neglection, poorly conceived policies of the government, and partial presence of social amenities such as good storage facilities, effective water supply, motorable roads, consistent power supply and many others. To address these issues, economic diversification has been one of the major yearnings of successive political administrations in Nigeria for over three decades now. Although attempts and progress were made, the efforts appear to have been futile as only meagre results in real terms seem to have been recorded.

Economic diversification can bring about many benefits such as expanding the export base of the country. Thereby increasing export earnings, create much-needed employment opportunities in order to absorb an increasing number of the teeming unemployed population, development and growth of potentials in untapped or underutilized sectors of the economy.

Despite all the reforms aimed at developing the non-oil sector, a large chunk of raw materials, consumer- and producer-goods are still import-reliant. Today, the poor exports of non-oil products are the norm while the county is stagnated growing in crucial sectors like tourism and textile production. Nigeria has therefore been unable to achieve the dynamic economy for which potentials abound but remain untapped. The agricultural sector has been relegated despite its efficacy to employ a large labour force (reducing unemployment) and provide a vent of surplus for domestic consumption and foreign earnings. As a result, a higher percentage of the populace are still living in struggles far below the poverty line (mostly in rural areas), while Nigeria herself is still grappling with problems of food security and unemployment.

One of Nigeria's attempts at diversifying the economy was the building of a virile manufacturing sector base through import substitution which depended on importing processed materials for assembling. However, the strategy merely bequeathed to the nation a number of assembly plants that were dependent on Completely Knockdown (CKD) components imported from industrialized nations while essential materials needed for domestic production in different sectors of the manufacturing industry were still being imported. The oil boom in Nigeria also led to the deterioration of human resource management. For failing to effectively diversify its economy and make concerted efforts towards developing other critical non-oil sectors (which has the potential to absorb its huge human resources), Nigeria has suffered from continued loss of skilled manpower as many graduates of higher education are not employed, or seek greener pastures in other nations.

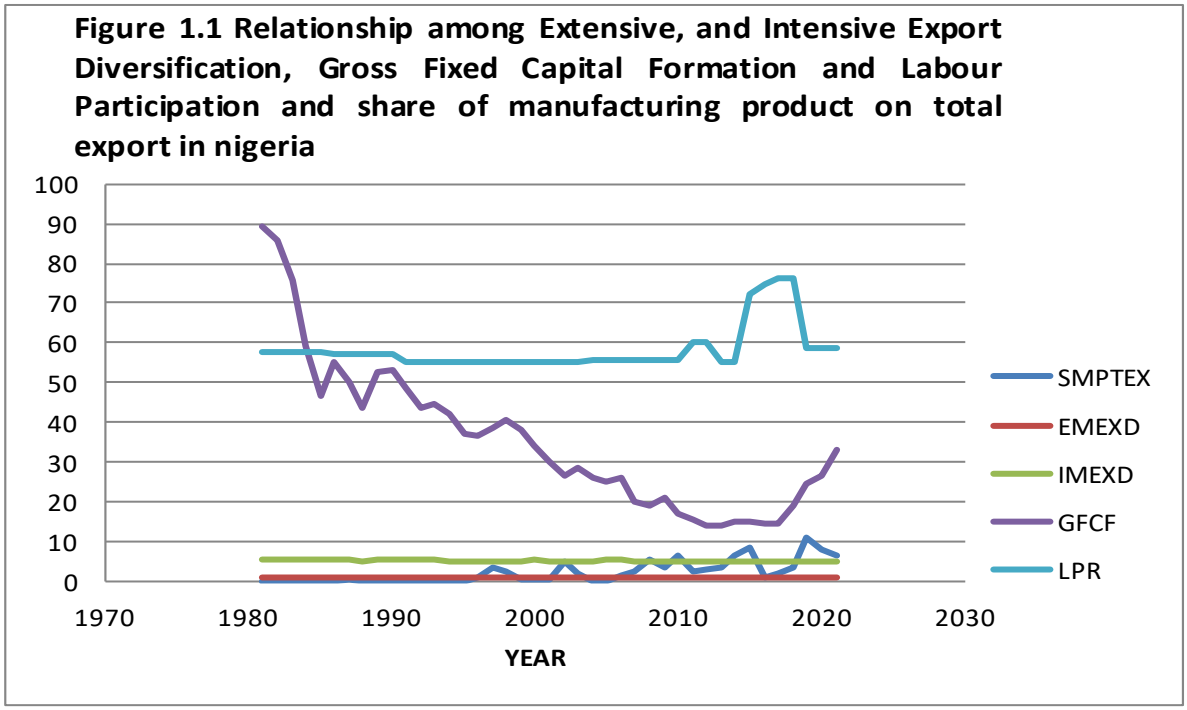
The persistent abysmal performance of the non-oil sector especially the manufacturing sector, as well as the dangers bordering around the external sector, are imminent. This puts a call for an urgent reassessment of Nigeria's export diversification policies and their implementation.

Statement of the Problem

Export diversification has been a contentious issue in Nigeria since independence due to the lopsided nature of the export structure characterized by the dominance of oil export over the years. To reduce this dominance of oil through export diversification, the Nigerian government has over the years implemented various trade policies - export promotion strategy in 1981; trade liberalization policy in 1986; exchange rate liberalization in 1986; establishment of the Nigerian Export-Import Bank (NEXIM) in 1991; and other bilateral and multilateral trade agreements. The implementations of the above trade policies were expected to enhance manufacturing sector performance and diversify the export structure through improved market access to international trade as experienced by other emerging countries. However, despite the initiated trade policies, the structure of Nigerian exports has remained dominated by oil exports with modest contributions from the non-oil export, especially the manufacturing sector.

According to CBN (2019), the contribution of oil exports to total exports rose progressively from 2.6% in 1960 to 98.7% in 2000 before declining marginally to 92.5% in 2015. In sharp contrast, the contribution of non-oil export through the manufacturing sector which stood at 97.4% in 1960 plummeted to 1.2% in 2000 before rising marginally to 7.5% in 2015 till 2020. Statistics showed that on average oil export accounted for about 80% of total export in Nigeria between 1960 and 2015 while non-oil export through the manufacturing sector accounted for one-fifth (20%) of total export within this period. This lopsidedness in export structure has posed serious economic obstacles such as unstable economic growth rate; instability in foreign exchange earnings resulting from susceptibility to volatility and shocks of global oil prices;

and exchange rate fluctuations among others. Furthermore, the figure below shows the disaggregation of export diversification on how it affects shares of manufacturing products on total exports in Nigeria;



Data Source: International Monetary Fund (IMF) export diversification and quality databases, (2019) and WDI (2021)

https://data.imf.org/?sk=a093df7d-e0b8-4913-80e0-7cf90b44db&sId=1497638692318

The above figure identified the two components measures of export diversification which are extensive margin export diversification *which* captures changes in *exports* arising from trading in new markets and intensive margin export diversification which identifies an increase in exports through expanding existing products, with Gross Fixed Capital Formation, Labour participation and share of manufacture products on total exports in Nigeria. According to International Monetary Fund (IMF) export diversification and quality databases, (2019), from 1981, 1991, 2001, 2011, and 2021, the extensive margin export diversification and intensive margin diversification were 0.79% and 5.34%, 0.77% and 5.23%, 0.77% and 5.11%, 0.77%, and 4.8%, and 0.78% and 4.84% respectively. Though extensive margin export diversification was relatively stable but intensive margin was not, and this has in one way or the other, affected its share of the manufacturing product total export in the country. It is worrisome to note that a perusal of available literature to the researcher showed little or no empirical studies exist on disaggregating export diversification to intensive and extensive margin export diversification in Nigeria; and how it affects manufacturing export product. Most studies in this regard only focused on the relationship between export diversification and the economic growth of Nigeria.

Objective of the Study

The broad objective of this study is to examine the effect of export diversification on manufacturing sector performance in Nigeria. The specific objectives are to:

1. Examine the effect of extensive margin export diversification on the shares of manufactured products on total exports in Nigeria.

2. Investigate the effect of intensive margin export diversification on the shares of manufactured products on total exports in Nigeria.

Review of Related Literature

Concept of Export Diversification

Export diversification as used in this study is defined as the expansion of exports to new products or new markets (extensive margin), as well as having a balanced mix of existing products (intensive margin). This is in line with the definitions of the concept given by the IMF (2014), Amurgo-Pacheco and Pierola (2007), as well as Siope, Spence, Mevel and Karingi (2012).

Papageorgiou and Spatafora (2012) identify two types of diversification namely; trade (export) diversification and domestic diversification, which are principally interlinked. According to them, trade diversification reflects diversity in the external sector, while the latter captures diversification in the domestic production process across sectors. However, for this study, the emphasis is on trade or export diversification.

Export diversification reflects the degree to which a country's exports are spread across a large number of products and/or trading partners. This contrasts with export concentration where a greater focus of trade is on a small number of commodities and/or trading partners. Conceptually, these two definitions are similar, in that a larger level of export diversification should reflect a smaller value of export concentration, and conversely. The indicators used in this study are based either on export shares or the deviation of the structure of trade from the global pattern. Hence, they are both related measures. A perfectly concentrated export portfolio exists when a country exports one product to only one trading partner. Conversely, a country has more diversified exports when its exports include a larger number of products and trading partners. In this box, the conceptual issues relating to export diversification and its measurement are presented. Explanations are also provided on the forms and dimensions they take as well as possible levels of analysis. The simplest definition of export diversification is the changing structure resulting from widening the range of a country's exports (Dennis and Shepherd 2007).

Diversification is achieved through increasingly changing the basket of commodities being exported, improving the existing exports by adding value or enhancing them through technology and innovation. In a practical sense, it can take different forms, and dimensions and can be analysed at varying levels (Ali et al., 1991). Export diversification can be vertical, horizontal or diagonal (Herzer and Nowak-Lehnmann 2006, and Samen 2010).

While vertical diversification refers to the transformation in a country's export basket from primary products to manufactures through increased value addition, horizontal diversification entails geographical diversification or diversification at the extensive margin which seeks to change export structure by increasing the mix of primary commodities being exported by the country (Matthee and Naudé 2008). The forward and backward linkages advantage and technology transfer potentials associated with vertical diversification impress scholars and

policymakers that this type of diversification is more beneficial to developing countries (Hirschman, 1958). Other types of diversification that have also gained prominence include product diversification, intermediate goods diversification, quality diversification, and goods-to-services diversification. Two measures that are often used to measure export diversification are: The Export Concentration Ratio (ECR), or the Herfindahl-Hirschmann Index (HHI) (Hirshman 1964), and the Export Diversification Index (EDI). The ECR lies between 0 and 1, where closer to 0 indicates greater diversified exports while closer to 1 signifies less diversified exports. Thus, a country with an ECR value of 1 is exporting a single commodity, while a country with a 0 value is exporting an infinite number of commodities. That is, higher values indicate that exports are concentrated in fewer sectors while lower values signify that exports are more highly diversified. The EDI for a country may be defined as: EDIj = (sum |hij – xi|)/2, where hij is the share of commodity i in the total exports of country j and xi is the share of the commodity in world exports. EDI also decreases with export diversification, since the higher the index the greater is the deviation of the country's exports from the global export pattern. Countries seek export diversification because of the several advantages it offers. First, it promotes long-run stabilization of export earnings The view is that a larger, more diversified basket of commodities exported would mitigate the potentially elastic and unstable demand associated with a single or fewer commodities. Second, export diversification serves as a strategy for structural economic transformation (Hausmann et al., 2007; Hausmann and Klinger, 2006).

Manufacturing Sector Performances

The manufacturing sector is the engine of economic growth and development as it diversifies the economy and makes it more elaborate. It also consists of industries that are involved in the making of goods and articles traditionally (input)or with machinery with a wide range of products (output) (Nwokoro, 2017).

According to Dickson (2010), the manufacturing sector accounts for a sizeable share of the industrial sector in developed countries. In other words, the amount of value-added, self-sufficiency or efficiency in the output of a country's manufacturing sector determines to a larger extent if the country is developed, developing or underdeveloped. According to Charles (2012), manufacturing industries create job opportunities which help diversify the economy from an agrarian third-world economy in the process helping the nation to increase its foreign exchange earnings. In recent times, manufacturing industries in Nigeria have been characterized by declining output, by extension employment generation, which is caused largely by inadequate electricity supply, smuggling of foreign products into the country, trade liberalization, globalization, high exchange rate, and low government expenditure (Eze & Ogiji, 2013).

However, the basic inference is that increased labour productivity in the manufacturing sector as a result of trade openness will lead to a rise in the growth of manufacturing output because of the effect of increased economies of larger production and technical progress (Onakoya, 2018).

Challenges of Export Diversification

There have been proposals in the literature and in policy debate that export diversification serves as a key development strategy for developing countries. However, the export

diversification drive has been weak in many developing countries (Bonaglia & Fukasaku, 2003). After so many years of policy reforms and structural adjustments, export diversification remains a challenge in many LDCs. These challenges may be context specific but some general reasons can be cited. Thus, irrespective of trade liberalization reforms in the area of the exchange rate, elimination of protectionist devices and dismantling of marketing boards, there are so many challenges that undermine good reforms on paper.

In most African countries, opportunities and constraints exist side by side. Traditionally, the opportunity to process most of the commodities into finished goods before they are exported has been apparent. However, there are both internal and external challenges that prevent these countries from fully exploiting these opportunities. According to Sannessee et al. (2014), some of the factors constraining the growth of export diversification include; weak infrastructural base, bureaucracy, barriers to market entry and inelastic supply of exports. In addition, lack of skilled manpower and weak public institutions that result in corruption can hamper private sector activities and undermines diversification reforms. In effect, poor infrastructural base can prevent local farmers from expanding the production of raw materials for an export processing activity. Again, reforms may not achieve their intended objective because there is no conducive environment for trade and investment promotion in the private sector. Also, structural reforms are likely to be undermined by a lack of incentive schemes and finance for export processing activity.

According to Bonaglia and Fukasaku (2003) and UNCTAD (2008), there is the external challenge of escalating taxes and tariffs, mandatory sanitary and phytosanitary standards prevent countries from exporting because the export of goods and services have to meet these stringent standards. These technical challenges to trade may have to be satisfied before a producer can enter and sell export commodities in another market. The implication is that it is difficult to break into the foreign market because of strict standards that have to be satisfied to meet consumer's preferences. They suggest that countries should adopt selective interventions such as direct credit allocation, subsidies and other incentives and local content requirements to help firms improve their export competitiveness. These policies can solve coordination failures and provide facilities and services which have the nature of public goods.

Domestic constraints on the other hand relate to weaknesses of private firms' capacity to upgrade the quality and value of existing products. That is, moving up the value chain so that the products can meet the consumers' preferences (Intensive margin). Getting a foothold on the international market also requires investment in supply chain management, marketing and branding and quality control. Again, it has been mentioned in the literature that the inadequacy of government policies, which reinforce external ones poses an internal challenge to developing export capacity.

According to Wilson (1984, p.86) (in Berhanu, 2003), the overall performance for countries that have adopted export diversification is unsatisfactory and only a few developing countries have managed to achieve it to any substantial degree. The structuralists attribute this reason to supply-side bottlenecks in developing countries but others still blame it on the difficulty of accessing the market of industrialized countries resulting in the slow pace of diversification. Thus, structural constraints such as high transport costs, excessive documentation and procedures, time required to import-export, transparency of border administration/Custom regulations, risk and cost associated with corruption are severally mentioned in the literature as challenges of export diversification reforms. Bonaglia and Fukasaku (2003), note that

limited trading knowledge in the form of a lack of information on foreign market structure, contact making and marketing, poses a great challenge to export diversification drive in low-income countries. In this respect, Trade Support Services (TSS) can help facilitate international business development by reducing transaction costs and building the trade capacity of private firms.

Several challenges continue to hinder efforts by African countries to diversify their economies and attain these economic benefits, especially in resource-rich countries (Gelb, 2010). These factors relate to institutions and policies, technology, research and development, human capital, infrastructure, competition in international markets and resource abundance which limits the urge to diversify and industrialize and instead encourages resource capture. Industrial policies are thus essential if African countries are to address these challenges and capitalize on opportunities for increased export diversification, sustainable growth and economic transformation (Elhiraika et al., 2013).

In summary, a coherent export diversification strategy requires getting the fundamentals right. Hence, there is the need to develop adequate infrastructure, and institutions, and create an enabling environment that will ensure successful trade reforms towards export diversification. Apart from selective interventions such as fiscal and direct credit incentives, local content requirements are now recognized as essential elements for successful export diversification. To ensure export competitiveness, cost of transactions should be reduced for firms to take advantage of emerging opportunities whiles countries negotiate international trade at the bilateral, regional, and multilateral levels to offer market opportunities to tap into regional and global production and distribution chains. On the whole, increasing exports, to take advantage of increased regional and global market, demands increased production of goods and services in various sectors of the economy and the ability to deliver products in time and in quality.

Export Diversification Initiatives

Export Subsidies

Export subsidies have been used by governments of African countries and LDCs to promote exports and foster diversification. This scheme often involves direct monetary payments, delivery of inexpensive loans, provision of tax relief and other related support to exporters in the domestic economy. The purpose of the intervention is to grant the domestic industry a strategic advantage in international markets by enhancing their export competitiveness. While export subsidies could play a positive role in inducing export diversification, it is important to stress that it imposes a heavy burden on government budgets and may be difficult to sustain, particularly in countries with narrow sources of revenue, a low tax base, and weak resource mobilization capacities. African countries and LDCs have relied on tax revenues from trade to bolster the government's budget and, in particular, to support import-substituting firms historically. Unfortunately, trade taxes are growth-inhibiting. For example, "Rodrik (1998) reported a consistently negative effect of trade taxes, in particular export taxes, on economic growth as well as on export growth in Sub-Saharan Africa" (Fosu, 2002b, p. 295).

Developed countries are more prone to using subsidies to promote exports, mostly in the agriculture sector. For example, Europe maintains a system of agricultural subsidies, the Common Agricultural Policy (CAP). Similarly, the U.S. provides subsidies and support to cotton farmers. The WTO prohibits the use of subsidies that are directly linked to export

volumes, and at the WTO's 10th Ministerial Conference, member countries pledged to abolish the use of all forms of export subsidies for agricultural products. Member States agreed that developed countries should immediately eliminate their remaining scheduled export subsidy entitlements, whereas developing country Members should eliminate their export subsidy entitlements by the end of 2018 (WTO Nairobi Ministerial Declaration 2015). Developing country Members shall continue to benefit from the provisions of Article 9.4 of the Agreement on Agriculture until the end of 2023, and LDCs and net food-importing developing countries until the end of 2030. Compliance with this agreement is yet to be realized. The use of export subsidies by developed countries means that exports by African countries and LDCs face a competitive disadvantage in global markets. It is also detrimental to the promotion of trade and employment in African countries and LDCs, since many of them have a comparative advantage in primary commodities and resource-based manufacturing.

Industrial policy

Industrial policy has played an important role in the economic development of advanced and emerging economies. The main objective of industrial policies is to enhance the competitiveness and capabilities of domestic firms and to diversify the structure of production (Greenwald and Stiglitz, 2014). Many African countries and LDCs have sought to promote export diversification through industrial policy. Such efforts have been aimed at upgrading and promoting the development of higher-productivity sectors, including manufacturing and high-end services. A good example of the use of industrial policy to promote industrialization in Africa is the leather industry in Ethiopia. The industry was identified as a priority sector in Ethiopia's 2002 Industrial Development Strategy, a focus which was reaffirmed in subsequent policy documents (Mbate, 2016). Government interventions have led to improvements across several steps of the value chain in the leather industry and the country now has a thriving footwear cluster that has endured competition from imports. Despite the progress that has been made, however, the scale of production and exports is still relatively small and earnings modest. Furthermore, in spite of international interest and considerable government attention and effort, Ethiopia's leather sector has not yet realized its full potential. There are various avenues for African countries to promote export diversification through focused policy interventions (Amurgo-Pacheco and Pierola 2008). One possible area of focus would be to promote geographical diversification and also upgrading of existing commodities exports. These could be achieved through focused policy on standards and technology upgrading that would allow the promotion of value addition and entry into new markets. A key lesson learned from successful industrial policies is that Governments should act as facilitators and enablers. In this context, African countries should aim at raising their levels of investment, improving governance, eliminating conflicts, adopting prudent fiscal policies and ensuring macroeconomic stability, in addition to the pursuance of industrial and trade policies which foster economic diversification (UNECA, 2016). Furthermore, realizing export diversification and employment creation objectives, requires making macroeconomic policies consistent with the goal of structural transformation (Osakwe, 2015). For example, interest rates should not be so high as to inhibit investment in strategic sectors of the economy. There is also the need for better coordination between the public and private sectors to promote national ownership and make policy implementation more inclusive than in the past. Governments should also improve the policy environment for businesses, including small and medium enterprises (SMEs) to enhance prospects for achieving export diversification and other national development goals. Some measures governments could take to foster a better industrial policy environment for business include enhancing access to finance, improving infrastructure, facilitating trade, and

investing in human capital. The latter is relevant since a shortage of skilled workers can be a major constraint - particularly for the expansion of manufacturing and service sectors, and the potential emergence of more sophisticated sectors.

Export processing zone (EPZ) schemes

A few African countries have attempted to promote exports diversification through export processing schemes (Farole 2011). The common objectives of these schemes are to produce more price-competitive non-traditional exportable goods, especially manufactures, through a waiver of duties and or taxes and other similar export-friendly incentives and regulations in export processing zones. In Africa, Liberia, Senegal and Mauritius pioneered use of EPZ schemes in the 1970s and early 1980s (Zeng 2015). Other African countries launched EPZs later in the 1990s and 2000s. The EPZs have focused on the comparative advantages of the countries, mostly in apparel, textile and agro-processing industries. Mauritius is often showcased as a success story, thriving in promoting economic and exports diversification, generating employment, knowledge and technology transfer, attracting large foreign investment, and curtailing capital flight (Subramanian, 2013). More recently, Ethiopia recorded impressive success in the use of EPZs to promote export diversification, mostly driven by the Investment Proclamation in 2012. The Bole Lemi Industrial Zone was opened in 2013 and by 2015, twelve international shoe, textile and garment-producing companies had invested in this zone. Five of these have started production with around 3,000 jobs created (Gakunu et al. 2015). EPZs have also been reasonably successful in Rwanda, Kenya, and South Arica. Success hinges on the introduction of comprehensive national laws and regulations, on the establishment and management of EPZs, as well as on effective institutional strengthening. Apart from these few success stories, the use of EPZs to foster exports diversification has only recorded very limited success in Africa and other LDCs. Limited national capacity reflected in weak planning and poor management appear to be the main factors behind the limited success of EPZs in Africa and LDCs (Auty 2011). Nigeria is often cited as an example of failure in the use of EPZs to foster exports diversification. While this scheme was introduced as far back as 1991, limited results have been achieved. Some of the challenges constraining success include: weak institutional and regulatory oversight, undue institutional rivalries among implementing agencies, and bureaucracy (Farole 2011 and UNDP and IPRCC 2015).

Tax incentives

Many African countries and LDCs have established various tax incentives schemes, such as duty drawback or suspension, to promote export diversification (KPMG 2016). Under these arrangements, exporters in specified priority sectors are allowed to import raw materials free of import duty or other related indirect taxes and charges. Others are given a refund of duties paid on imported inputs that are expected to be used to produce exports. These could be importing taxes, levies, fees or value-added taxes. It could also be in the form of tax relief on income. In this instance, the interest income of financial institutions accruing from export-related lending is exempted from tax. The purpose of the exemption is to encourage lending to exporters with a view to diversifying exports. Export development and expansion fund credit instruments are regarded as one of the most important mechanisms for promoting exports and export diversification, due to the crucial role of credit in providing capital for business operations as well as business facilitation in foreign markets (see Fox and Oviedo, 2013, p. 630). In developing countries, few (large) firms are able to access such loans from commercial lenders. However, in countries such as LDCs, the economic landscape is dominated by small

and medium enterprises (SMEs) that are considered very risky borrowers. Thus, the SMEs need financial support in the form of subsidized loans and grants. To provide this support, LDCs governments would typically set up export development and expansion grants to support firms engaged in exports. The grants are usually in the form of a special fund provided as financial assistance to exporting companies to cover part of their initial export promotion activities (Rankin 2013). The activities covered through this fund may include consultancies, export market research studies, advertising and publicity campaigns, and product design. The expansion component of the fund provides cash inducements to those exporters who attained a specified minimum annual export turnover. The objective is to enable exporters to achieve increased export volume and export product diversification. Usually, the exports are expected to be in the non-traditional sectors of the economy, such as semi-processed, semi-manufactured and manufactured goods.

Export credit guarantee and insurance scheme

Through this type of support, loans granted by commercial banks to exporters for producing goods and services for exports are guaranteed and insured (FAO 2013). Foreign importers of the locally produced goods are given credit facilities as well as insurance cover for the local exporters, should the foreign importers of the locally produced commodities fail to pay for the goods purchased. This scheme thus minimizes for exporters' risks associated with exporting with the assurance of guaranteed sales and income from exports.

Theoretical Literature Review

Export-Led Growth Hypothesis

The Export-Led Growth Hypothesis (ELGH) has singled out export growth as a key determinant of sustainable growth. It posits that the growth rate of an economy does not depend on only increasing quantity of labour and capital within the economy, but also on export-led strategy that ensures economic growth. There are many determinants of economic growth and export is considered as one of the very important determining factors (Allaro, 2012). Hence, it is universally accepted as a key for countries that seek accelerated economic growth. Advocates of the ELGH present series of arguments that buttress export-oriented development strategies. The nexus between trade expansion and economic growth has therefore received considerable attention from development economists in recent times.

Export is an aggregate demand component and has a positive effect on the economic growth of each country. It can serve as an "engine of growth" and therefore an expanded international trade has a huge influence on economic growth. International trade expansion creates other economic benefits such as technological spillovers, increasing output, employment and other externalities. Economic growth is an extremely complex process and depends on many variables such as capital accumulation, trade, and political factors among others for its measurements. The relationship between exports and growth is often attributed to the possible positive externalities that each creates on the domestic economy arising from participation in international trade. These positive externalities arise out of the reallocation of existing resources, economies of scale and various labour training effects.

According to (UN, 2001), a substantial number of studies concerning the ELGH in developing countries have been carried out during the past 30 years. Nevertheless, propositions from these

studies have at best been mixed and often conflicting. Several authors that examined the ELGH could not theorize a unique relationship between export expansion and growth. Some perspectives on ELGH suggest export as an "engine of growth" while others opine that the ELGH is probably beneficial only for a limited number of developing countries, and only to a certain extent.

The Diversification-Led Growth Hypothesis

The concept of export diversification has attracted diverse opinions. For example, Cadot et al. (2007), Brenton and Newfarmer (2007) and, Besedes and Prusa (2008) have defined the concept as the export of new product varieties to existing or new destination markets or the export of existing product varieties to new markets. In effect, there is a "geographic and product level aspect of diversification" (Hossain & Chowdhury, 2014) and also involve the spread of production over many sectors (Berthelemy & Chauvin, 2000). Ali et al. (1991) explain export diversification to imply the change in the composition of a country's existing export product mix or export destination. A formal definition of export diversification should include both the broadening of economic export activities and the degree to which each sector contributes to the overall country's exports (Arawomo et al., 2014).

The question of how export diversification helps stimulate growth of developing countries has been at the centre of the diversification-led growth debate (Sannassee, 2014). Many developing countries have adopted diversification as an export-led growth strategy and is seen as moving away from the enclave of traditional to non-traditional exports (Samen, 2010). It is often argued that higher diversification has a positive effect on economic growth but most advanced countries are more diversified in their production structures. Kamuganga (2012) advices that for successful economic transformation that guarantees wage employment, African economies should move away from narrow portfolio of single commodity exports and diversify their exports into new products and new markets. Africa can benefit from international trade, if its export portfolio, product quality and range of export markets are upgraded.

There is also the question as to why export diversification should be a policy concern. There is an emerging consensus in literature on why countries should diversify Sannassee, (2014).) are of the view that sectorial concentration of exports has negative effects on economic growth. High sectorial concentration implies the economy becomes sensitive to sector-specific shocks and unsustained export revenues and growth rates (Bleaney & Greenaway, 2001). As a result, countries that exhibit lower export diversification and volatile business cycles have lower exports and long-term growth rates. Again, over concentration on few commodities for exports hampers productivity growth (Feenstra and Kee, 2004). More specifically, high dependence on few exports as a source of revenue impact negatively on economic growth (Sachs and Warner, 1999; Lederman and Maloney, 2003) and that continuous dependent on few commodities for exports is not enough to guarantee sustained long-term growth. It has also been argued in the literature that, specializing in primary products in which natural resources account for a larger share of exports does not favor convergence (Prebisch, 1950; and Singer, 1950) and such countries are likely to experience the "Dutch disease" (Corden, 1980).

The Prebisch and Singer Hypothesis

Prebisch and Singer (1950) further elaborated the argument of the importance of diversification for economic growth in their famous Prebisch-Singer hypothesis (PSH), which asserts that

economic growth cannot be based on the export of primary products, because world prices for primary exports relative to manufactured exports decline over time. The Prebisch-Singer Hypothesis has been widely discussed in economic literature, with conclusions being drawn both for and against its validity. According to her, while overall, the Graham paradox and the Prebisch-Singer Hypothesis do not provide arguments in favour of diversification per se, they in fact explain the disadvantage of being specialized in the "wrong" sector, namely, primary production, as opposed to being specialized in manufacturing. In principle, these arguments can therefore serve as a rationale for changing the respective sector in which a country specializes or as justification for overall export diversification.

Empirical Literature Review

Many empirical works involving cross country and country-specific studies have been conducted at both international and national levels. Al-Marhubi (2000), in a cross-country study, includes various measures of export concentration to the basic growth equation. The finding shows that export diversification promotes economic growth.

In another cross-country study on stages of diversification, Imbs and Wacziarg (2003) used production and labour data to investigate the relationship between sectoral diversification and per capita income patterns across various countries. The empirical result reveals that the relationship follows an inverted U-Curve pattern. The important issue raised by the study arises from the non-linearity between export diversification and economic growth and the question of whether export diversification is still beneficial to High-Income Countries (HICs) or not. In line with the finding by Imbs and Wacziarg (2003), Kelinger and Lederman (2004), using disaggregated export data, found that overall diversification increases at a low level of development but declines as the country matures beyond a middle-income point. Hence the study confirms that the inverted U-curve relationship between export diversification and economic growth is true.

Another study that confirms the inverted U-Curve relationship between export diversification and economic growth was carried out by Cadot, Carrere and Strauss-Kahn (2011). In their study, they derived and revisited a decomposition of Theil's concentration index into the extensive and intensive (new products or new markets) margins of export diversification. To analyse how the two margins evolve as a function of GDP per capita, they constructed a database covering 156 countries (both developed and developing). Their empirical result also confirms the hump-shaped (inverted U-Curve) relationship between economic development and export diversification.

Contrary to the above findings, some studies could not confirm the existence of the inverted U-Curve relationship between export diversification and economic growth. For instance, Kaulich (2012) using data from UNIDO data base on 116 countries which include the UK, US, Germany, Nigeria, Algeria, Mali, Burundi, etc find, from the regression analysis a positive relationship between export diversification and economic growth. The study reveals that the evidence about the occurrence of a negative relationship between export diversification and economic growth at higher level of income per capita was inconclusive.

Besides the cross-country studies reviewed above, country-specific studies that contradict the inverted U-Curve relationship between export diversification and economic growth have equally been conducted. For instance, Arip, Yee and Abudulkarim (2010) analysed the long-

term relationship between export diversification and economic growth in Malaysia for the period 1980 – 2007. The empirical result of the study shows that export diversification has a positive effect on the economic growth of Malaysia.

In another study with similar outcome, Sannassee, Seetanah and Lamport (2014) employed the vector cointegration method to analyse exports diversification and economic growth in Mauritius. Adopting the inverse of Herfindahl index as a measure of diversification and real GDP per capita as the measure of economic growth, they found that a positive relationship between export diversification and economic growth exists.

In line with the above finding of Sinnassee *et al*. (2014), Mudenda, Choga and Chigamba (2014) analysed the role of export diversification on economic growth in South Africa for the period 1980 – 2011. Applying the Vector Error Correction (VEC) model in the estimation of the data, the results show that export diversification and trade openness have positive relationship with economic growth. On the other hand, real exchange rate, capital formation and human capital variables have negative long run relationship with economic growth. However, the study did not use diversification index which is a more direct measure of export diversification.

In a similar study, Esu and Udonwa (2015) examined economic diversification and economic growth in Nigeria. The study employed Error Correction Model (ECM) to find out the extent to which Nigeria could gain from diversifying the economy. The empirical result indicates that diversification has a positive effect on the economy.

Doki and Tyokohol (2019) examined the relationship between export diversification and economic growth in Nigeria for the period 1981 – 2016. The study used Theil export diversification index and GDP per capita (as a measure of economic growth). Applying the technique of Autoregressive Distributed Lag (ARDL) bounds testing procedure in the estimation, the empirical result shows that export diversification has positive, though insignificant, effect on economic growth in Nigeria both in the short run and long run.

Another recent study which confirms positive relationship between export diversification and economic growth was conducted by Amoro (2020). In the study, Amoro (2020) analysed the relationship between export diversification and economic growth for 15 countries of EOWAS states for the period 2005 – 2015. Using the dynamic panel data estimation method, the result show that export diversification has positive impact on economic growth in ECOWAS states sampled. However, the link between export diversification and economic growth is non-monotonic, which implies that countries in ECOWAS can intensify export diversification at a certain point at a critical concentration export value of 0.52 level. At this level, income starts to fall with the export diversification portfolio.

Musembi and Jagongo (2017) determined the relationship between diversification and firm performance has formed the subject of many researches but many researchers have disagreed on the nature of the relationship between diversification and performance.

Maurizio, Tiziana and Javier (2018) evaluated the effect of diversification strategy on corporate value for a sample of Italian companies. It accounts for both the level of diversification and relatedness components. Empirical analyses how a U-shaped curvilinear relationship between diversification and value. In contrast to the mainstream literature, our results highlight that

related diversification has a negative effect, while unrelated diversification is a value-creating strategy.

Ogbonna (2018) examined the relationship between private sector development and export diversification from 1999Q1 - 2016Q4. Employing time series analysis with data drawn from Nigeria, the results indicate that the level of private sector investment is a significant determinant of export diversification both in the short and long run. Equivalently, the quality of infrastructure, violent conflicts, quality of governance, and openness are also important determinants of export diversification in the short-and long-run.

Ayobola, Ekundayo, Muibi (2018) examined the relationship between resource endowment and export diversification and its implication for economic growth in Nigeria based on data from 1981 to 2015. The study concludes that specialization is preferred to diversification for Nigeria in the current circumstance. Because of the contradictory results concerning the relationship between diversification and performance, the question of whether diversification improves or worsens firm performance is still worthy of further research such as the one being undertaken in this study. In addition, despite the existence of these studies, very little attention has been given to the developing countries. Besides, the impact of diversification on firm performance has not received adequate research attention in Nigeria. Hence, the key issue to sustain growth in Nigeria is not in the number of productive sectors but in their efficiency.

Mac-Ozigbo and Cross (2020), examined the relationship between export diversification and firm performance varies among institutions and over time. Less is known about the advantageousness of diversification in economy-wide crises, which have occurred frequently in recent years Using data from a recent survey, we studied nearly 400 Nigeria private firms using two different approaches panel and cross-period comparisons. The findings of both approaches show that diversified firms performed better than focused firms. This was also true during the 2008 global financial crisis. The higher the diversification level, the more positive the firm performance was. We also investigated the influence of ownership structure. Firms that are totally owned by the founding owner and his/her family tend to have unsatisfactory performance under crisis. This finding provides evidence of the increasing attention on management and governance to explain firm. Linear regression models were evaluated to test the effect of diversification on firm performance. Panel A uses profit as the dependent variable, and Panel B uses sales. For each year (2007, 2008, and 2009), two regression models were evaluated: one testing the impact of diversification and the other testing the impact of the diversification level. We found that diversified firms performed better than focused firms during the recent global financial crisis. The diversification level was positively and linearly related to performance, that is, more diversified firms performed better. Moreover, we found that private firms that are totally owned by the founding owner and his/her family performed worse under crisis.

Abuh, and Echukwu, (2020), examined the impact of export diversification on the performance of the Dangote Group of companies. The objective of the research is to specifically examine the extent to which product and market diversifications have improved the corporate performance in Dangote Group of Companies. The research elicited data from primary sources while the respondents were reached using a questionnaire. The data were analysed using a five-point Likert scale and hypotheses were tested using linear regression analysis. The research revealed that diversification is a strategy for firms' survival. In addition, diversification strategy increases market share of the organization as well as minimizing risk of operations. The

research therefore recommends that diversified enterprises should strengthen their product diversification drive so as to remain in business. More so, the firms should study and improve their diversified techniques through product and market innovative strategies as this measure would guarantee sustainable performance of firms.

Oyelami, and Alade, (2018), examine the effects of trade diversification on macroeconomic performance in Nigeria. To achieve this, the study employs bound test of ARDL to determine the existence of cointegration between trade diversification and key macroeconomic variables. We further estimate the short-run and long-run effects of Intensive and Extensive trade diversification on Economic growth and exchange rate movements. The results from bound tests confirm co-integration between trade diversification and economic growth on one hand and trade diversification and exchange rate movements on the other hand. Similarly, the results from our estimations show that trade diversification can propel economic growth in the country. Also, the trade diversification can reduce movements in exchange rate especially extensive diversification thus preventing it from substantial movement that can derail this important variable from its long run equilibrium.

Musa, Kyarem, and Zubair, (2021), investigated the role of the manufacturing sector on economic diversification in Nigeria from the period of 1986-2016. They used the ARDL technique to establish long-run relationship between diversification proxy by Theil index decomposed into Theil Total (TT), Theil Between (TB) and Theil Within (TW) and Manufacturing sector which was proxy by Manufacturing Capacity Utilization(MCU) and Manufacturing Value Added (MVA) controlled by Gross Fixed Capital Formation (GFCF), Foreign Direct Investment (FDI) and Real Effective Exchange Rate (REER). The result revealed that long-run relationship exists among the estimated variables in the three models. MCU, MVA and GFCF promote total diversification and horizontal diversification in the long-run but the coefficients of MCU and MVA are insignificant. On the other hand, only Foreign direct investment and real effective exchange rates promote vertical diversification.

Duhu, (2022), examine the impact of export diversification on economic growth in Nigeria. Annual time series data on GDP per capita, Theil export diversification index, gross fixed capital formation (for domestic investment), exchange rate and openness of the economy were the variables collected for the analysis for the period 1980-2017. Dummy variable for democracy was also constructed to test for the impact of governance on economic growth in Nigeria. To estimate the data, Autoregressive Distributed lag model, applying bounds test was adopted. The empirical results show that export diversification has positive but insignificant impact on economic growth in Nigeria both in the short run and long run. Similarly, domestic investment has positive impact on economic growth both in the short run and long run. However, its impact is significant only in the short run. Exchange rate has negative impact on economic growth in the short run but its impact in the long run is positive, showing instability in the exchange rate movements in Nigeria. Openness of the economy has negative impact on economic growth both in the short run and long run. However, its impact is significant only in the long run. Democracy dummy has positive but insignificant impact on economic growth both in the e short run and long run.

Literature Gaps

The empirical literature highlighted above has helped in determining the Gap in which this study was filled. It’s no doubt that the above theoretical and empirical literature have

contributed significantly to this study, however, most of the study concentrated on export diversification and economic growth with no significant study on the manufacturing sector performance in Nigeria. Furthermore, It is worrisome to note that the perusal of literature to the best of my knowledge showed little or no empirical studies exist on disaggregating export diversification to intensive and extensive margin export diversification in Nigeria; and how it affects manufacturing export products. The scope of previous works was also limited to 2018, while this study was extended to 2021. This study adopts Hummels and Klenow (2005).

RESEARCH METHODOLOGY

Theoretical Framework

The theoretical framework for this study is the Diversification-Led Growth Hypothesis (DGH) as shown by Romer (1990) and modified by Herzer and Nowak-Lehmann (2006). Romer (1990) believes that diversification can be regarded as a factor input capable of boosting the efficiency of the other factors of production. Following the work of Herzer and Nowak-Lehmann (2006), we consider an economy with n sectors and Z being a member of n export sectors and the production is given as:

$$Y = f(\mathrm{K}, \mathrm{L}, \mathrm{W}) \quad \text{.....(3.1)}$$

Where Y is the output of the sectors of the economy, K and L are the conventional capital and labour inputs respectively and W represents the index of public knowledge which enters the production as a trade diversification index.

Taking the total differentiation of equation 3.1 we have

$$dY = \frac{\partial f}{\partial K} dK + \frac{\partial f}{\partial L} dL + \frac{\partial f}{\partial W} dW \quad \text{.....(3.2)}$$

We observe that:

$$\frac{\partial f}{\partial i} > 0; \frac{\partial f}{\partial i^{f}} > 0; \frac{\partial f}{\partial e} > 0 \quad \text{.....(3.3)}$$

From equation 3.3, an increase in the capital input, labour input and diversification index positively affect the growth of productive sector of an economy. Following the above statement, we modify our model using Hummels and Klenow (2005) model.

Y = Share of Manufacture product on total exports

K = Capital proxy by Gross Fixed Capita Formation

L = Labor Participation

W = Export Diversification proxy by Extensive and Intensive Margin Export Diversification

We follow Hummels and Klenow (2005), HK, in decomposing trade flows into an extensive and an intensive margin. The extensive margin represents new export lines: it is given by a count of products exported to a given destination, eventually weighted by their share in world trade. Weights are meant to capture the expansion potential of a new export line, so starting to export a product which is important in world trade counts more than starting to export a product which is less important in world trade. We construct both the HK measure and the simple measure in Eaton and Fieler (2019). The HK measure weights new exports by their share in world trade. Specifically, let I_{jm} be the set of products exported by country j to country m, $X^{w}_{m,i}$ the dollar value of world's exports of product *i* to Country m, and $X^{w}_{m,i}$ the dollar value of aggregate world's exports to country *m*, then the extensive margin of exports from country *j* to country *m* is

$$XM_{jm} = \frac{\sum_{i \in Ijm} X^{w}_{m,i}}{X^{w}_{m}} \quad \text{.....3.4}$$

The simple measure of the extensive margin is given by the fraction of products that j exports to m, relative to all products exported to m,

$$XM_{jm} = \frac{\sum_{i \in Ijm} i}{\sum_{i \in Iwm} i} \quad \text{.....3.5}$$

Where Iwm is the set of products that the worlds export to m, . This measure, constructed as a count of exported products that is independent of export value, is convenient in data sets spanning a large number of countries and long periods of time. We consider the simple measure for robustness purposes.

The intensive margin reflects the size of a country's exports to a given destination. It is defined as follows:

$$IM_{jm} = \frac{\sum_{i \in Ijm} X_{j,i}}{\sum_{i \in Ijm} X^{w}_{m,i}} \quad \text{.....3.6}$$

Where $X_{j,i}$ is the dollar value of $j's$ exports of product *i* to country m, . In words, the numerator is $j's$ aggregate exports to country m, and the denominator is world exports to country m, of products that are in $j's$ export portfolio. That is, the intensive margin is $j's$ market share in what it exports to country m, By construction, all these measures are between

zero and one. Notice that the categories of goods exported might differ across exporters and change over time. The measurement implies that a country would have a higher extensive margin if it exports many different categories of products to a given destination, whereas, it would have a higher intensive margin if it exports only few categories to this destination. Hence, the extensive margin increases with the number of products exported and is a measure of export diversification. The intensive margin increases with the volume of exports per product and is a measure of export size.

Model Specification

From the above equations the functional relation for the model is given below:

SMPTEX = *f* (EMEXD, IMEXD, GFCF, LPR)……..(3.7)

where:

SMPTEX = Share of Manufacture product on total exports

EMEXD = Extensive Margin Export Diversification Index

IMEXD = Intensive Margin Export Diversification Index

GFCF = Gross Fixed Capita Formation

LPR= Labor Participation Rate

In order to estimate equation 3.4, we transform the equation into estimated model as:

$$SMPTEX_t = \alpha_0 + \alpha_1 EMEXD_t + \alpha_2 IMEXD_t + \alpha_3 GFCF_t + \alpha_4 LPR_t + \mu_t \quad \text{.....(3.8)}$$

The ARDL (p, q) model stated as:

$$\Delta SMPTEX_t = \sum_{i=1}^{p} \varphi_i \Delta SMPTEX_{\text{t-i}} + \sum_{i=0}^{q} \varphi_i \Delta EMEXD_{t-i} + \sum_{i=0}^{q} \varphi_i \Delta IMEXD_{t-i} + \sum_{i=0}^{q} \varphi_i \Delta GFCF_{t-i} + \sum_{i=0}^{q} \varphi_i \Delta LPR_{t-i} +$$
$$\sum_{i=1}^{p} \lambda_i SMPTEX_{\text{t-i}} + \sum_{i=0}^{q} \lambda_i EMEXD_{t-i} + \sum_{i=0}^{q} \lambda_i IMEXD_{t-i} + \sum_{i=0}^{q} \lambda_i GFCF_{t-i} + \sum_{i=0}^{q} \lambda_i LPR_{t-i} + \phi ECT + \varepsilon_t \quad \text{.....(3.9)}$$

Where

$$ECT_t = Y_t - \alpha_0 - \sum_{i=1}^{p} \gamma_1 \Delta Y_{t-i} - \sum_{i=0}^{p} \beta_i \Delta X_{t-i} \text{ and } \phi = 1 - \sum_{i=1}^{p} \gamma_1 \Delta Y_{t-i} \quad \text{.....(3.10)}$$

The Bound test procedure used equations 3.9 and 3.10 into 3.11 as:

$$\Delta Y_t = -\sum_{i=1}^{p-1} \gamma_1 Y * \Delta Y_{t-i} + \sum_{i=0}^{p} \beta_i \Delta X_{t-i} - \rho Y_{t-1} - \alpha - \sum_{i=0}^{p} \delta X_{t-i} + \mu_{it} \quad \text{.....(3.11)}$$

Then we test the existence of level relationship as $\rho = 0$ and $\delta_1 = \delta_2 = ... = \delta_k = 0$

where Δ = difference operator, φ = the short-term coefficient, λ = the long run coefficients μ = white noise error term.

Justification of the Model

The use of ARDL test approach is predicated on its several advantages over other cointegration tests such as Engle-Granger and Johansen's cointegration method. Firstly, the ARDL efficiently determines the cointegrating relation in small sample cases (Ghatak & Siddiki, 2001; Tang, 2003), whereas Johansen's method requires a large sample for validity. Secondly, other methods require that the variables must be integrated of the same order before the cointegration test is carried out, while the ARDL approach can be applied irrespective of whether the regressors are *I(1) and I(0) or mutually* cointegrated, in which the dependent variable must be *I(1).* If the nature of the stationarity of the data is not clear, then the use of the ARDL Bounds test is appropriate. A unit root test is not necessary if a conclusion can be made from the Bounds test for cointegration (Pesaran et al., 2001). Thirdly, the choice in Johansen's method are limited, when using the ARDL a large number of choices can be made including decisions regarding the number of endogenous and exogenous variables, if any, for inclusion, the treatment of deterministic elements. The other major advantage of the ARDL approach is that it can be applied to studies that have a small sample size.

Summary of Explanatory Variables, their expected signs and data Sources

Table 3.1 Explanation of the Variables and Apriori Expectations

Variables	**Indicators**	**Expected Signs of coefficients**	**Source**
Extensive Margin Export Diversification Index	Measure for export diversification	**Positive**	International Monetary Fund (IMF) export diversification and quality databases, (2019)
Intensive Margin Export Diversification Index	Measure for export diversification size	**Positive**	International Monetary Fund (IMF) export diversification and quality databases, (2019)
Gross Fixed Capita Formation	Capital accumulation	**Positive**	WDI (2021)
Labor Participation Rate	Employed workers	**Positive**	WDI (2021)

Pre-estimation Test

Unit Root and Cointegration Test

Since the validity of the ARDL approach relies on *I(0), I(1)* or a combination of both, it is important to first determine the time-series properties of individual model variable. This is done to know whether the variables are integrated of order zero or one or even more. In order to determine the order of integration of the model variables, this study employed the Augmented Dickey-Fuller unit root test.

Source of Data

In an attempt to empirically analyse the effect of export diversification on manufacturing sector growth in Nigeria, a functional model was formulated and specified for the period 1981 to 2021. The study employed the use of secondary data sourced from International Monetary Fund (IMF) export diversification and quality databases (2019) and WDI (2021)

https://data.imf.org/?sk=a093df7d-e0b8-4913-80e0-7cf90b44db&sId=1497638692318

Presentation of Data

Unit Root Test

A unit root test (ADF) was conducted to ascertain whether the variables in the model are stationary. This is necessary as it helps to avoid spurious regression results. The summary of Unit Root Tests (ADF) results using E-views software is detailed in the table below:

Table 4.1: Summary of ADF test results at 5% critical value

VARIABLE	ADF TEST STATISTICS	CRITICAL VALUE 5%	ORDER OF INTEGRATION	DECISION RULE
SMPTEX	-4.607357	-2.938987	I~ (1)	Reject Ho
EMEXD	-4.515155	-2.936942	I~ (0)	Reject Ho
IMEXD	-6.246822	-2.941145	I~ (1)	Reject Ho
GFCF	-3.776135	-2.936942	I~ (0)	Reject Ho
LPR	-5.363893	-2.945842	I~ (1)	Reject Ho

Source: Authors computation 2024

Table 4.2: Summary of PP test results at 5% critical value

VARIABLE	PHILLIPS PERON TEST STATISTICS	CRITICAL VALUE 5%	ORDER OF INTEGRATION	DECISION RULE
SMPTEX	-12.04252	-2.938987	I~ (1)	Reject Ho
EMEXD	-4.681798	-2.936942	I~ (0)	Reject Ho
IMEXD	-8.749038	-2.938987	I~ (1)	Reject Ho
GFCF	-3.780018	-2.936942	I~ (0)	Reject Ho
LPR	-6.143784	-2.938987	I~ (1)	Reject Ho

Source: Authors computation 2024

The result of unit root tests from ADF and PP are shown in Table 4.1 and 4.2 respectively. There is consistence between the two traditional tests on the order of integration of the

variables. Variables Share of Manufacture product on total exports, Intensive Margin Export Diversification Index, Labor Participation Rate are stationary at first difference which means they were integrated of order one (I ~ (1). On the other hand, Extensive Margin Export Diversification Index and Gross Fixed Capita Formation are stationary at level this implies that the variables were integrated of order zero (I ~ (0)). The decision was based on the fact the ADF and PP statistics that is greater than the ADF and PP critical values at 5%, we reject H_0 and conclude that the variables are stationary. Since the variables are integrated of order one and zero and none of the variables is integrated of order two. We therefore, apply the ARDL bound co-integration test.

ARDL Bound Co-integration Test

A necessary condition for testing for ARDL bound co-integrating test is that each of the variables be integrated of either of order one or zero or both (Pesaran, Shin and Smith, 2001). Since all the variables are integrated of order one and zero, we proceeded to estimate the ARDL bound test. The null hypothesis of ARDL bound co-integration is that the variables are not cointegrated as against the alternative that they are cointegrated. The decision rule is to reject the null hypothesis if the F-statistics is greater than the upper bound critical values at chosen level of significance. The result of the ARDL co-integration test is shown in table 4.3 below.

Table 4.3: ARDL Bound Co-integration (5% critical value) Test Result for the models

F-Statistics	K	Significance level	Critical Bound Value	
			10 (Lower Bound)	11 (Upper Bound)
7.505932	4	5%	2.86	4.01

Source: Author's Computation 2024

From table 4.3 the F-statistics 7.505932, it's greater than the upper (I1) bound of 4.01 at 5% level of significance. Thus, we reject the null hypothesis and conclude that there is presence of co-integration in the model. This implies that there is a long run relationship between export diversification and Share of Manufacture product on total exports. Since there is a long run relationship, we therefore estimate the short run and long run ARDL regression models and the results are presented in the tables below:

Test for Short Run Relationship

Having ascertained that there exists a co-integrating relationship between export diversification and Share of Manufacture product on total exports, the short run relationship needs to be ascertained.

Table 4.4: Summary of Parsimonious Short Run Relationship Result between export diversification and Share of Manufacture product on total exports in Nigeria

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CointEq(-1)*	-1.489993	0.290657	-5.126299	0.0001

Source: Author's Computation 2024

From table 4.4 above; the coefficient of the error correction term (cointEQ) is statistically significant and carries the expected negative sign at 5% level of significant; Revealing that a short run relationship exist between export diversification and Share of Manufacture product on total exports. The speed of adjustment is 1.49 that is 1.49% of the adjustment to equilibrium of Share of Manufacture product on total exports is expected to occur in short run though at one period.

Test for Long Run Relationship

It's imperative to ascertain the long run relationship that exists between export diversification and manufacturing sector output in Nigeria. The ARDL bound test will be employed, as shown in the table below;

Table 4.5: Summary of Long Run Relationship between diversification and Share of Manufacture product on total exports in Nigeria Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EMEXD	6.810159	37.249051	0.182828	0.8570
IMEXD	-9.250999	3.397045	-2.723249	0.0139
GFCF	-0.060929	0.024336	-2.503679	0.0221
LPR	0.070178	0.077042	0.910897	0.3744
C	41.544548	25.095465	1.655460	0.1152

Source: Author's Computation 2024

Interpretation Of Long Run ARDL Result

MAN= 41.545 + 6.810EMEXD – 9.251MEXD – 0.061GFCF + 0.0702LPR

The long run joint impact of export diversification on Share of Manufacture product on total exports in Nigeria will amount to 41.55%; this is on the basis that the indices of export diversification and the control variables like gross fixed capital formation and labor participation are all held constant, that is for Share of Manufacture product on total exports in Nigeria to have a positive contribution of about 41.55%, export diversification and the control variables are held at constant.

Extensive Margin Export Diversification possessed a positive and insignificant relationship with Share of Manufacture product on total exports in Nigeria. Entailing that on the long run, as Extensive Margin Export Diversification in Nigeria increased by 1 percent, it causes the

Share of Manufacture product on total exports to increase by **6.8%**. This conforms to a priori expectation since export diversification is expected to increase Share of Manufacture product on total exports in Nigeria. This finding is in line with Tyokohol (2019), Sannassee *et al.* (2014), Arip, Yee and Abdulkarim (2010) Heiko (2008) and Duhu, (2022). These studies contradict inverted u-curve relationship between export diversification and economic growth, particularly for low income countries of which Nigeria is among and this means that expansion of exports to new products or new markets (extensive margin) in Nigeria have adequately performed well though insignificant,

Furthermore, Intensive Margin Export Diversification possessed a negative and significant relationship with Share of Manufacture product on total exports in Nigeria. Entailing that on the long run, as Intensive Margin Export Diversification in Nigeria increased by 1 percent, it causes the Share of Manufacture product on total exports to decrease by **9.3%**. This did not conform to apriori expectation since export diversification is expected to increase Share of Manufacture product on total exports in Nigeria. This finding is not in line with Musa, kyarem, and Zubair, (2021), who investigated the role of manufacturing sector on economic diversification in Nigeria from the period of 1986-2016. there result identified that the coefficients of manufacturing capacity utilization and manufacturing value added carry the expected sign but are insignificant for total diversification (TI) and intensive margin (TW) in the long-run; and this means that having a balanced mix of existing products (intensive margin) in Nigeria have not adequately performed well though significant,

Test of Hypotheses

The individual test was carried out using t-probability statistics at 5% level of significance; Shown in table 4.5. The rule applied was:

If t-probability statistics is greater than the prescribed level of 5% or 0.05, accept the null hypothesis; otherwise reject the null hypothesis when t-probability is less than 0.05.

Hypothesis 1

$H0_1$: Extensive margin export diversification has no significant relationship with Share of manufacture products on total exports in Nigeria.

Conclusion

From table 4.5 above, the probability of f-stat was 0.8570, and greater than 0.05 critical values. Thus, we accept the null hypothesis and conclude that Extensive margin export diversification has no significant relationship with Share of manufacture products on total exports in Nigeria.

Hypothesis 2

$H0_2$: Intensive margin export diversification has no significant relationship with Share of manufacture products on total exports in Nigeria

Conclusion

From table 4.5 above, the probability of f-stat was 0.0139, and less than 0.05 critical values. Thus we reject the null hypothesis and conclude that Intensive margin export diversification have significant relationship with Share of manufacture products on total exports in Nigeria.

Summary of Findings

The summary of the results are highlighted below

1. Extensive Margin Export Diversification possessed a positive and insignificant relationship with Share of Manufacture product on total exports in Nigeria.

2. Intensive Margin Export Diversification possessed a negative and significant relationship with Share of Manufacture product on total exports in Nigeria.

3. Gross Fixed Capital Formation possessed a negative and significant relationship with Share of Manufacture product on total exports in Nigeria.

4. Labor participation rate possessed a positive and insignificant relationship with Share of Manufacture product on total exports in Nigeria

Conclusion

The study examined the effect of export diversification on manufacturing sector performance in Nigeria for the period of 1981 to 2021. the specific objective was to investigate the relationship between Extensive Margin Export Diversification with Share of Manufacture product on total exports in Nigeria; secondly to determine the relationship between Intensive Margin Export Diversification with Share of Manufacture product on total exports in Nigeria. the variables used are; Share of Manufacture product on total exports in Nigeria as the dependent variable, while Extensive Margin Export Diversification index, Intensive Margin Export Diversification index, with control variables like Gross Fixed Capital Formation and Labor participation rate, serves as the independent variable. The data was sourced from International Monetary Fund (IMF) export diversification and quality databases, (2019) and WDI (2021). However, due to the nature of the unit root test which comprises of ADF and PP test, of mixed order of integration, ARDL statistical techniques was applied in analysing the data. From the result, it was deduced that, Extensive Margin Export Diversification possessed a positive and insignificant relationship with Share of Manufacture product on total exports in Nigeria; Intensive Margin Export Diversification possessed a negative and significant relationship with Share of Manufacture product on total exports in Nigeria and the control variables also showed that, Gross Fixed Capital Formation possessed a negative and significant relationship with Share of Manufacture product on total exports in Nigeria; Labor participation rate possessed a positive and insignificant relationship with Share of Manufacture product on total exports in Nigeria. finally in conclusion, the issue of export diversification cannot be over emphasized in that it have contributed immensely to share of export manufacturing product in Nigeria.

Recommendations

Base on this result; it was recommended that

1. Policies that will encourage different sectors in the manufacturing component to also diversify in order to boost productivity in the country and expanding of exports to new products or new markets (extensive margin) in Nigeria.

2. There is need to balanced mix of existing products (intensive margin) in Nigeria before exporting them because by so doing it will improve variety of product being exported and in the long run it will improve manufacturing export product performance.

REFERENCES

Abuh, A. P., & Echukwu, I. J. (2020). Diversification strategy and performance of manufacturing firms in Nigeria. *International Journal of Public Administration and Management Research (IJPAMR), 5*(4), August, 2020.

Agbaeze, E. K., Udeh, S. N., & Onwuka, I. O. (2015). Resolving Nigeria's dependency on oil – The derivation model. *Journal of African Studies and Development, 7*(1), 1-14.

Allaro, H. B. (2012). The effect of export-led growth strategy on the Ethiopian economy. *American Journal of Economics, 2*(3), 50-56.

Al-Marbubi, F. (2000). Export diversification and growth: An empirical investigation. *Applied Economic Letters, 7*, 559-562.

Amoro, G. (2020). Export diversification and economic growth for ECOWAS states. *American Journal of Economics, 10*(6), 433-440. doi:10.5923/j.economics.202006.13

Amurgo-Pacheco, A., & Pierola, D. (2007). Patterns of export diversification in developing countries: Intensive and extensive margins. Mimeo; GIIS, Geneva.

Arip, M. A., Yee, L. S., & Karim, B. A. (2010). Export diversification and economic growth in Malaysia. MPRA Paper No. 20588.

Ayobola, C., Ekundayo, M., & Muibi, S. (2018). Resource endowment and export diversification: Implications for growth in Nigeria. *Studies in Business and Economics, 13*(1).

Barkema, H. G., & Vermeulen, F. (1998). International expansion through start-up or acquisition: A learning perspective. *Academy of Management Journal, 41*(1), 7–26.

Bany-Ariffin, A., Matemilola, B., Wahid, L., & Abdullah, S. (2016). International diversification and firm's value: Evidence from developing nations. *Review of International Business and Strategy, 26*(2), 166-183.

Barney, J. B. (1991). Enterprise resources and sustained competitiveness advantage. *Journal of Management, 17*(1), 99-120.

Barney, J. B., Ketchen, D. J., & Wright, M. (2011). The future of resource-based theory: Revitalization or decline? *Journal of Management, 37*(5), 1299-1315.

Bebczuk, R. N., & Berrettoni, D. (2006). Explaining export diversification: An empirical analysis. *Documentos de Trabajo*.

Berg, J. (2016). Corporate diversification and firm performance: The effect of the global financial crisis on diversification in India. Unpublished MBA Project, Nairobi: University of Nairobi.

Berhanu, L. (2003). Prospects for export diversification in Ethiopia. NBE Staff Working Paper ERD/SWP/007/2003.

Berthélémy, J. C., & Chauvin, S. (2000). Structural changes in Asia and growth prospects after the crisis. *CEPII Research Center*.

Berger, P., & Ofek, E. (1995). Diversification's effect on firm value. *Journal of Finance Economics, 37*(1), 39-65.

Bertinelli, L., Salins, V., & Strobl, E. (2006). Export diversification and price uncertainty in Sub-Saharan Africa and other developing countries: A portfolio theory approach. Mimeo, Universite de Luxembourg, Universite de Paris X, Ecolé Polytechnique.

Bleaney, M., & Greenaway, D. (2001). The impact of terms of trade and real exchange rate on investment and growth in Sub-Saharan Africa. *Journal of Development Economics, 65*(2), 491-500.

Cadot, O., Carrere, C., & Strauss-Kahn, V. (2011). Export diversification: What's behind the bump? *The Review of Economics and Statistics, 93*(2), 590-605.

Central Bank of Nigeria (CBN). (2019). Statistical Bulletin of Various Issues, 2019.

Charles, A. N. B. (2012). Investigating the performance of monetary policy on manufacturing sector in Nigeria. *Arabian Journal of Business and Management Review, 2*(1), 12-25.

Dennis, A., & Shepherd, B. (2007). Trade costs, barriers to entry and export diversification in developing countries. *Policy Research Working Paper No. 4368*. The World Bank.

Doaei, M., Anuar, M. A., & Ismail, Z. (2015). Corporate diversification and efficiency of manufacturing firms listed in Busra Malaysia. *Iranian Journal of Management Studies, 8*(4), 523-544.

Doki, N. O., & Tyokohol, M. Y. (2019). Export diversification and economic growth in Nigeria. *International Journal of Economics and Financial Management, 4*(2), ISSN: 2545-5966 www.iiardpub.org.

Doukas, J., & Kan, O. (2006). Does diversification destroy firm value? *Journal of International Business Studies, 37*(3), 352-371.

Dickson, D. A. (2010). The recent trends and patterns in Nigeria's industrial development. *Council for the Development of Social Science Research in Africa*.

Elango, B., Ma, Y.-L., & Pope, N. (2008). An investigation into the diversification-performance relationship in the U.S. property liability insurance industry. *The Journal of Risk and Insurance, 75*, 567–591.

Elhiraika, A. B., & Mbate, M. M. (2014). Assessing the determinants of export diversification in Africa. *Applied Econometrics and International Development, 14*(1), 147-160.

Esu, G. E., & Udonwa, U. (2015). Economic diversification and economic growth: Evidence from Nigeria. *Journal of Economic and Sustainable Development, 6*(16), 61-67.

Herzer, D., & Nowak-Lehnmann D. F. (2006). What does export diversification do for growth? An econometric analysis. *Applied Economics, 38*(15), 1825-1838.

Hirschman, A. O. (1958). The paternity of an index. *American Economic Review, 54*(5), 761.

Hausmann, R., Hwang, J., & Rodrik, D. (2005). What you export matters. *NBER Working Paper No. 11905*. National Bureau of Economic Research, Cambridge, MA.

Heiko, H. (2008). Export diversification and Economic Growth. *Commission on Growth and Development Working Paper No.* 21, 1-23.

Imbs, J., & Wacziarg, R. (2003). Stages of diversification. *American Economic Review, 93*(1), 63-86.

International Monetary Fund. (2019). Export diversification and quality databases, (2019).

Jide, I. (2017). Keystone bank boosts agriculture with N300m Agric anchor borrowers programme.

Kaulich, F. (2012). Diversification vs. specialization as alternative strategies for economic development: Can we settle a debate by looking at the empirical evidence? Vienna: UNIDO.

Klinger, B., & Lederman, D. (2004). Discovery and development: An empirical exploration of new products. *World Bank Policy Research Working Paper Series* No. 3450.

Mac-Ozigbo, A., & CROSS O.D. (2020). Diversification Strategy and Financial Performance of Nigeria Private Firms. *International Journal of Scientific Research and Management (IJSRM), 08*(07), EM-2020-1883-1889.

Maurizio, L. R., Tiziana L. R. F., & Javier, S. V. (2018). Multibusiness firms and performance in Italy. What role does relatedness play? *European Research on Management and Business Economics, 24*(2018), 63–70.

Matthee, M., & Naudé, W. A. (2007). The Determinants of Regional Manufactured Exports from a Developing Country. *WIDER Research Paper No.* 2007/10. United Nations University – World Institute for Development Economics Research, Helsinki.

Mudenda, C., Choga, I., & Chigamba, C. (2014). The role of export diversification and economic growth in South Africa. *Mediterranean Journal of Social Sciences, 5*(9).

Musembi, M. M., & Jagongo, A. (2017). The Impact of portfolio diversification on financial performance of investment firms listed in Nairobi Securities Exchange, Kenya: Empirical Review. *International Journal of Management and Commerce Innovations, 5*(2), 177-187.

Nwokoro, A.N. (2017). An Empirical Analysis of Interest Rates and Manufacturing Sector Performance in Nigeria. *The International Journal of Humanities & Social Studies, 5*(3).

Ogbonna, I. C. (2018). Private Sector Development and Economic Diversification: Evidence from Nigeria. *Advances in Social Sciences Research Journal, 5*(3), 170-183.

Ojiabor, F. (2014). Oil and the diversification of Nigeria's economy, around Nigeria.

Olorunfemi, F., & Raheem, U.A. (2008). Sustainable tourism development in Africa: the imperative for tourist/host communities' security. *Journal of Sustainable development in Africa, 10*(3), 201-220.

Oyejide, T. A. (1986). The effects of trade and exchange rate policies on agriculture in Nigeria. *Research Report* 55. International Food Policy Research Institute, Washington, DC.

Papageorgiou, C., & Spatafora, N. (2012). Economic diversification in LICs: Stylized facts and macroeconomic implications. *IMF Staff Discussion Notes, SDN/12*(13).

Prebisch, R. (1950). The economic development of Latin America and its principal problems. Economic Commission for Latin America; Lake Success, NY: United Nations Department of Economic Affairs.

Samen, Salomon. (2010). Export Development, Diversification, and Competitiveness: How Some Developing Countries got it Right. Washington, D.C.: The World Bank.

Sannassee, R.V., Seetanah, B., & Lamport, M. J. (2014). Export diversification and economic growth: The case of Mauritius. World Trade Organization assisted Paper.

Siope, V. O., Spence, M., Mevel, S., & Karingi, S. (2012). Export diversification and intra industry trade in Africa. United Nations Economic Commission for Africa (Draft).

Uzonwanne, M. C. (2015). Economic diversification in Nigeria in the face of dwindling oil revenue. *Journal of Economics and Sustainable Development*, *6*(4), 61-67.

World Bank Development Indicator. (2021). World Bank Statistical Indicator of various issues 2021.