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THE EFFECT OF MACROECONOMIC VARIABLES ON THE PERFORMANCE OF AGRICULTURAL EXPORTS IN NIGERIA

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Abstract
This study examined the effect of macroeconomic variables on the performance of agriculturalexports in Nigeria from 1986 to 2022. The study specifically investigated the influence of consumer price index (inflation), broad money supply, lending rate, exchange rate, and real gross domestic product on non-oil agricultural exports. Annual time series data were obtained from secondary sources and analyzed using descriptive statistics, Augmented Dickey-Fuller (ADF) unit root test, Autoregressive Distributed Lag (ARDL) model, Error Correction Mechanism (ECM), and Pairwise Granger Causality test.
The findings revealed that consumer price index and exchange rate had positive and significant effects on agricultural exports in Nigeria, while broad supply and lending rate exerted significant negative effects on non-oil agricultural exports. Real gross domestic product showed a positive but insignificant relationsmoneyhip with agricultural export performance. The ECM result indicated a strong adjustment from short-run disequilibrium to long-run equilibrium. Furthermore, the Granger causality test showed no causal relationship among the selected macroeconomic variables and agricultural exports. The study concluded that stable macroeconomic policies are essential for improving agricultural export performance and promoting sustainable economic diversification in Nigeria.
Keywords : Agricultural Exports, Macroeconomic Variables, Exchange Rate, Inflation Rate, Interest Rate

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I. INTRODUCTION

International trade founded on the comparative advantage theory, enables countries to sell goods and services in which they have comparative advantage to other countries that are comparatively disadvantaged in the production of such goods and services. Comparatively advantaged countries also specialize in areas of production where they have cheaper cost of funds, materials, and other resources than other countries. These countries will buy (import) goods and services in which they are comparatively disadvantaged (Khan and Goldstein, 2021). In each of these countries, the volume, price and timing of exports are directly or indirectly affected by macroeconomic variables/indicators.
Macroeconomic variables are those indicators put in place for the stability of an economy and to maintain real sector productivity. These variables according to Issah and Antwi (2017) can be categorized into two indicators: leading and lagging. The leading indicators among others entail the stock market, yields on bonds, estate prices, retail sales and interest rates while the lagging indicators include GDP growth rate, exchange rate, employment/unemployment rates, inflation rate or consumer price index (CPI) among others. Aladejare and Abdulwahab (2018) explained that the interaction and the adjustment of these variables can either pose a positive or negative threat to the volume of goods and services exported to other countries. This assertion was also observed by Lawalet al. (2022) who claimed that with positive movement in the behaviour of macroeconomic variables, output of non-oil sector will continue to flourish. For instance, the ability of non-oil sector to access capital for expansion depends on the prevailing rate of interest. Exchange rate instability also creates uncertainty within an economy and this fuel inflation and in this way caused interest rate to be either adjusted upward or downward (Adaramola and Dada, 2020).
The export-led growth (ELG) hypothesis posited that exports of goods and services are necessity for domestic economic growth since it will create employment, increase capacity utilization and productivity, improve profits and increase reserves accumulation. According to Yusifet al.(2015), export is indispensable for economic prosperity of a nation. For developed countries, they need to export capital goods and manufactured products to other countries to continue to earn foreign exchange. Developing countries, on the other hand, need to export goods from natural resources (agriculture, solid minerals etc.) and services so as to earn foreign exchange for importation purpose. Therefore, the extent of non-oil sector contribution to economic growth is crucial for countries that rely heavily on a single product export like Nigeria. Apart from having the potential of improving exchange earnings and balance of payment, growth in the non-oil sector also boosts employment, domestic

income, government revenue and increase production capacity of the private sector (Daisi, 2001). For these laudable contributions to be achieved and sustained it requires the stability of macroeconomic variables.

Elechi et al.(2016) asserted that increase in non-oil exports facilitates high domestic production, international division of labour advantage, and funds for physical and human capital acquisition. According to the authors, the Nigerian non-oil exports are all products export apart from oil which includes but not limited to products from manufacturing, transportation, industry, agriculture, and other services yielding economic benefit for the nation. The non-oil exports provide the impetus for sustainable growth and development as it provides countries with foreign exchange needed for the purchase of imports. As suggested by Usman (2011) and later by Igwe et al. (2015), there must be sincere and concerted efforts to revamp the highly unstable and below average performance of the sector. Ilegbinosa et al. (2012) stated that non-oil exports are essential sources of economic growth for developing countries and therefore claimed that a positive adjustment in macroeconomic variables would contribute in no small measure in facilitating export expansion which will translate to increasing economic growth.

Prior to the emergence of crude oil exploration in commercial quantity in Nigeria, agriculture constituted the majority of the Nigerian non-oil sector. Other sectors supporting agriculture were manufacturing, transportation, communication, real estate construction, tourism and others (Awoyele et al., 2020). Awoyele et al (2020) stated that despite several government efforts to boost Nigeria's non-oil exports for the past three decades, not much steady progress has been achieved. Specifically, the authors posited that, empirically, the non-oil sector was yet to perform impressively in terms of its contributions to the gross domestic product and export earnings. According to the authors the oil sector that accounted for more than 90 per cent of total export earnings and recorded over 80 per cent of government revenue by the end of 1970s still maintains the same trend to date. Hence, designing and implementing macroeconomic policies and programmes that will spur stable and spirited growth of the Nigerian non-oil sector output therefore constituted a thorny issue to policymakers and the governments at various levels (Aladejare and Abdulwahab, 2018).

In a bid to revamp the non-oil sector, the Federal Government of Nigeria and the apex bank had over the years put in place several strategies and programmes such as 1986 forward with SAP introduction, the creation of Nigeria Export processing Zones (NEPZA), the Nigerian Export-Import Bank (NEXIM) and Nigerian Export Promotion Council (NEPC), African Continental Free Trade Area (AFCFTA) and several other initiatives aimed at creating enabling environment, provide incentives and support for players in the non-oil production sector. However, Taoheed (2021) argued that notwithstanding the plethora of policies and programmes for this purpose, their impact on the output of non-oil export in Nigeria is yet to be seen due to the frequent instability of economic variables such as money supply, exchange rate, government expenditure, gross domestic product, among others. According to Edeme and Obiayo (2017) the achievement of these programmes on the output of non-oil export could not be realized due to unfavourable macroeconomic variables characterized the economy.

The effect of macroeconomic variables on non-oil export cannot be denied. For instance, exchange rate occupied the position of international competitiveness and can only be maximized through inclusive promotion of non-oil exports which is growth enhanced than oil-sector (Lawal et al., 2022). Oriavwote and Eshenake (2015) noted that the inability to keep exchange rate stabilized limits the performance of non-oil export in Nigeria. The government policy of SAP of 1986 was meant to boost non-oil exports and led to the depreciation of exchange rate. This initially enhanced domestic production as agricultural exports recorded an increase. However, the incessant movement in exchange rate eventually obstructs the output of non-oil export in Nigeria. The non-oil export output was also hindered due to the high cost of doing business. According to Adaramola and Dada (2020), inflation rate in Nigeria is described to be a major obstruction to the survival and growth of businesses. In the view of Lawal et al. (2022) inflation rate affects output of non-oil sector in two ways: the demand for the goods and the input factors. High or unfavourable movement in interest rate also hinders the sector from accessing capital. This scenario is also applicable to frequent fluctuation in other macroeconomic variables which invariably causes dwindling performance of non-oil export in Nigeria. Therefore, in an economy like Nigeria where the monetary authority is weak to effectively implement policies that can facilitate stable macroeconomic variables, the business activity will surfer and this hinders output of non-oil export (Oriavwote and Eshenake, 2015; Abogan et al., 2014).

However, one major sector of the economy whose contribution on aggregate economic growth or activities cannot be relegated to the backseat is the non-oil sector. Since the movement or adjustment in these economic variables influence trade flow and the proceeds from export, it is vital to account for this movement and how it impacts on the different components of the non-oil export in Nigeria. The study covers a 37-year period (1986-2022), the choice of year 1986 is premised on the beginning of Structural Adjustment Programme (SAP), a major policy shift directed towards revamping the real sector of the Nigerian economy and accelerate non-oil sector growth in the country. In addition, 2022 marked the end period since time series data were involved and

the prevailing occurrences were incorporated. Furthermore, agriculture exports over the period represent the dependent variables while the independent variables are lending rate, broad money supply, gross domestic product, exchange and inflation rates.

II. CONCEPTUAL REVIEW

2.1.1 Macroeconomic Variables

A country's economic behaviour is propelled by certain economic indices and factors. While the government and the people have direct control over some of these factors, others (like external indicators) are not. These variables, referred to as macroeconomic factors. They are characterised by occurrences that impact the country's economy (Issah and Antwi, 2017). To preserve the stability of the financial sector and the productivity of the real sector, macroeconomic variables are implemented. Macroeconomic variables according to Akinsola and Odhiambo (2017) were divided into two indicators: leading and lagging. The leading indicators are the stock market, estate prices, yields on bonds, retail sales, interest rates, production and manufacturing indices while the lagging indicators include GDP growth rate, exchange rate, employment/unemployment rates, inflation (CPI) among others. This researcher briefly examines the selected macroeconomic variables in this study as follows:

2.1.1.1 Broad Money Supply

The total number of monetary assets in the economy at any given time is known as the broad money supply. Numerous writers have noted that the money supply has a major role in influencing output of the non-oil and invariably economic development and growth. For instance, increase in money supply, especially loans from deposit money banks will facilitate and boost output of non-oil sector. Also, Barnor (2014) stated that rising money supply will cause the economy to grow. This is the same position of Rehman et al. (2009) and Shiblee (2009). Humpe and Macmillan (2007) asserted that rising money supply positively affects industrial production, all things being equal

2.1.1.2 Exchange Rate

Exchange rate expresses the rate at which Nigerian currencies are traded with other international currencies. According to Kiruiet al. (2014), shifts in the exchange rate can have an impact on relative prices and, in turn, the competitiveness of domestic and international firms. As a result, when a nation depends on exports, an increase in the value of its native currency lowers export competitiveness, which has an adverse effect on the domestic stock market. According to Kuwornu (2012), a country's currency appreciation lowers import costs, which account for a significant portion of the input costs for production in emerging markets. Because its product is elastic and there is elastic demand, export volume will rise when the value of the home currency declines relative to other currencies, ceteris paribus. According to Obura and Anyango (2016) and Handa (2009), exchange rates impact national economies from a macro perspective, but they also have an impact on individual enterprises from a micro perspective. Therefore, it is unclear how changing exchange rates may affect the volume of non-oil exports.

2.1.1.3 Lending Rate

According to Devereux and Yetman (2002), a loan rate is the cost incurred by a borrower for utilising other people's funds. Keynes (1936) described it as capital cost borrowed for a specified period. It is defined as the savings price put on the supply and demand of loanable funds by Obura and Anyango (2016). According to neoclassical theorists, rising interest rates raise the cost of money needed for investments, which causes investment activity to decline. This echoes the argument made by Barnor (2014), who claimed that growing interest rates have an impact on investment choices and may encourage investors to switch from capital market to fixed income assets in their portfolio. Rehmanet al. (2009) argued that higher lending or discount rates will reduce the present value (PV) of cash flows, so that increased rate increases the opportunity cost of holding cash. This will have impairing effect on investment, including exports.

2.1.1.4 Inflation/Consumer Price Index

Inflation is described as a continuous rise in prices of goods and services as observed by Fisher (1933) as well as Bernaike (2002), among others, agree that high inflation can lead to unfavourable economic outcomes. A hyper-inflation for example can cause monetary and financial authorities to deficit financing through the printing of money. Commonly, as in the present study, inflation is measured by consumer price index (CPI). According to the International Labour Organization (2020) and the World Bank (2004) the CPI measures personal sector spending, the PPI measures spending of an individual sector. Since inflation affects all facets of economic

activities, especially of prices, its effect on productivity (including non-oil exports) is reasonably expected to be negative (Akinsola and Odhiambo, 2017).

In summary, Fadol (2020) posited that macroeconomics variables provide framework for the way the economy functions despite its complications. Various macroeconomic indicators are pointers to how the economy operates and their manipulations by the policymakers to attain improved national income, stable price level, financial system stability and reduced unemployment among other goals. In Nigeria, like other countries, policy makers focus on the manipulation of macroeconomic variables such as government expenditure, exchange rate, interest rates, money supply, consumer price index, taxation, monetary policy rate, balance of trade, among others, so as to achieve relative economic growth and stability.

2.1.2 Non-oil Exports

The concept of non-oil exports emanated from the existence of oil export in oil producing countries. Taoheed (2021) stated that non-oil export refers to all other alternatives produced for export apart from crude oil for a given period. According to the author, non-oil export in Nigeria includes all products and services exported from agriculture, solid minerals, industries, information and communication technology (ICT), trade services, financial services, and transport among others. For Ritiet al. (2016) ascertained that non-oil exports in Nigeria include all economic groups existing outside the petroleum and gas industry and do not connect or relate with them. The authors listed the sectors as including ICT services, banking and insurance services, tourism, other commodity trades, agriculture, power, solid minerals, manufacturing, professional services and environmental services. Ritiet al. (2016) further categorized non-oil exports into two types: merchandise export and non-factor services exports. While the merchandise export includes products such as rubber, fibers, plastics, fertilizers, pesticides, textiles, agricultural products, manufactures goods, machineries, tyres, electronics, health products, beauty and decoration products, technology, non-factor services export includes exports of services not involving transfer of physical goods. It comprises of professional services in medical consultancy, educational services and communication services.

Ogunsanwo et al. (2020) asserted that non-oil exports consist of all exported commodities and services excluding crude oil. Accordingly, the authors stated that non-oil exports sector is broadly categorized into four, namely, agricultural, manufacturing, solid mineral and services exports. Daisi (2001) positioned that non-oil product constituted the main part of Nigeria's export in the pre- and immediate post-independence eras. During these periods, agricultural products (cotton, cocoa, palm oil and groundnut) formed the mainstay of Nigeria’s economy and exports. These same eras witnessed tremendous growth of Nigerian export oriented. Ironically, the discovery and exploration of crude oil forced a neglect of the all-important agricultural sector and the country tended towards a mono-product exporting country.

2.1.3 Determinants of Non-Oil Exports

Farhadi et al. (2010) pointed out that in the classical economists’ trade theory framework, trade is generally assumed to be determined by forces of demand and supply. Factors that affect supply and demand differ in different countries, even when such countries have similar production possibility curves. Tastes, purchasing power, culture and other factors also affect demand. Familusi (2020) identified weak infrastructure, constraints to supply due to inadequate technology, weak institutional framework and paucity of finance as main factors that stampede output, especially in developing countries.

Usman and Landry (2021) argued that the willingness of countries to diversify by oil producing countries is a major influencer of output and exports of non-oil product. According to these authors, the quest to diversify has dictated policy directions in many countries. Many oil producing countries in Latin America, Africa and the Persian Gulf have developed strategies to reduce dependence on oil. Dobdinga et al (2017) stated that there are three conceptualization areas from where output can grow: economic sectors, fiscal diversifications and export diversification. The economic sector conceptualization refers to increasing output by increasing the number of sectors that aid employment and aggregate output. This includes structural and technological improvements from previously informal way of doing things. Furthermore, Dobdinga et al (2017) defined fiscal diversification as increasing the number of sectors that add considerably to government revenues. Fiscal diversification is measured by the portion of government revenue accruing from different sectors of the economy. So, to fiscally diversify is to reduce reliance on few sources of government revenue, particularly from non-oil sectors (Hailu and Kipgen, 2017). The third conceptualization (export diversification), according to Dobinga et al (2017) concerns the process of increasing the number of trade partners and product lines to the partners across the world. Export diversification as a strategy to influence output entails engaging in exporting a wide range of products than a few (or one) products exported previously (Rondeau and Roudaut, 2015).Hasanova et al.(2021)

submitted that infrastructure facilities and institutions (insurance, businesses, banking and many more) also considerably affect non-oil exports performance.

Nnabuife (2019) identified several factors that affect international trade, by extension, non-oil exports, in Nigeria. First, the author posited that a country's inflation rate exerts strong impact on foreign trade because rising prices can make households and businesses to import more and face difficulty in exportation of their products. But as inflation rate decreases, international competitiveness and exports can be increased. Second, exchange rate affects volume of exports. A rising exchange rate will encourage exports as its prices become higher relative to domestic currency and vice-versa while imports, on the other hand, will likely fall. Third, the author stated that productivity also affects international trade because increasing will most likely increase demand by households and firms, implying rise and fall in exports and imports respectively. Fourth, the quality of tradeable products also influences its exports, the higher the quality of manufactured goods, the higher the probability of increased local and foreign demand for them. The fifth factor by Nnabuife (2019) is the effectiveness of marketing strategies put in place by producers and marketers. Finally, the GDP influences the volume of exports. A rise in GDP domestically improves both exports and imports because more inputs can be imported to produce more goods

Nnabuife (2019) further noted that corruption, political instability and foreign reserves position as other important factors influencing non-oil export. If the government puts in place a fair-trade policy that includes sound exchange rate policy; good governance that ensures that inflation is controlled; good infrastructure and political stability, domestic economy will receive a boost and foreign reserves will increase. All these achievements will translate into favourable international trade occasioned by rise in exports volume. Dubravskaa and Siraa (2015) listed factors that determine exports as political landscape, economic and practical factors which manifest themselves in exchange rate, globalization, competition, tariffs, trade barriers, languages and cultures, transportation and other costs of doing business according to the World Trade Organization (WTO, 2013).

Olaniyan (2018) while empirically examining what constituted the determinants of Nigeria' s non-oil export performance in Nigeria due to the wave of financial sector liberalization, observed that gross domestic investment, trade openness significantly influenced volume of non-oil exports. Factors such as relative prices and aggregate domestic sales did not exert significant impact on non-oil exports but there exist some other factors that are yet to be explained as determinants of non-oil exports. The author advocated a shift from emphasis on non-oil export promotion to diversification of the non-oil "export basket and market." On their part, Khan and Goldstein (2021) listed the other factors that affect non-oil exports performance as including migrants' remittances, capital flows, structure of production and economic policy and strategies of government.

2.1.4 Non-Oil Export Performance in Nigeria

2.1.4.1 Agricultural Non-oil Exports

Duke et al (2016) submitted that before crude oil was realised in Nigeria in 1956, the country earned her foreign exchange mainly from non-oil export of products like cotton, rubber, palm oil, groundnuts, and cocoa. As soon as oil came into the limelight, these lines of products were systematically neglected and attention shifted to oil exploration and exportation for foreign exchange earnings. From a high percentage of 83% of the country's foreign earnings from non-oil exports prior to this shift, it declined to as low as 4% from 1980 to 1986. It further dropped to 2.2% in 2012. With the attendant volatility in oil prices in the oil market, Nigeria revenue became absolutely dependent on the changes in the prices of crude oil in the world oil market. Duke et al (2016) posited that despite government efforts towards diversification of the domestic economy into non-oil production (with programmes such as the SMECGS and the ACGS, non– oil exports performance in Nigeria have been ridiculously low. This is made worse by the consistent depreciation in the exchange rate of the Naira to major world currencies.

2.1.2 Efforts to Promote Non-Oil Exports in Nigeria

Ekene and West (2020) itemized reasons why fiscal and monetary policy instruments such as government expenditure and interest rates are used in the process of revamping the non-oil sector as including the cyclical, volatile and erratic nature of the global oil market and its effect on government revenue and the exhaustibility nature of oil resource. Hence governments of oil producing countries continuously take deliberate steps to develop the non-oil sector with revenues accruing from oil.

Familusi (2020) stated that, consecutively, the Nigerian governments, for the past three decades, have demonstrated interest in developing the non-oil sector through the establishment of supportive policies and programmes. These programmes, among others, include those put in place to protect local industries so they could produce for exports during the 1960s, the deregulation and liberalization eras (1986 forward with SAP

introduction), the export promotion era (1990 with focus on SMEs growth and several other initiatives in the 2000s aimed at fostering growing non-oil exports in the country.
Over the years, the performance of the non-oil sector output and exports in Nigeria has elicited several strategies intended to reverse the dismal performance of the sector. Taoheed (2021) reported that policies embarked upon by the government included the creation of NEPZA, NEXIM and NEPC and others. As at 2021, as noted by Taoheed (2021), the sector was yet to attain its full potential as a veritable foreign exchange earner for the country. Researchers believe that the inability of these policies and programmes to reverse the current trend might have been the result of policy inappropriateness or implementation problem.

2.1.5.1 The Non-Oil Export Stimulation Facility (NESF)

The CBN in 2018 introduced the NESF, a framework directed at diversifying the economy's revenue base and fast-tracking non-oil exports growth in Nigeria. The NESF was meant to redress the dwindling export finance and revamp the sector to improve in its share of the GDP. CBN (2018) listed the aims of the facility as:

i. Facilitate improved access to favourable finance by exporters so they could expand the non-oil exports
ii. Create new investments and spur re-investments in non-oil exports value-added chain.
iii. Create more employment and increase productivity of the non-oil export sector.
iv. Give necessary support to non-oil export-oriented firms to enlarge their operations and capabilities.
v. Widen the number of financial instruments for export finance.

According to the CBN (2018), the NESF guidelines outlined the eligibility criteria for companies to benefit from the facility: due incorporation in Nigeria (under CAMA), provable export contract(s), and creditworthy reports from a minimum of two licensed local credit bureau. The facility could be accessed for "exportation of goods manufactured, services plant and machinery imports material inputs that are not locally available. DMBs and development finance institutions are the targeted participants in the facility. The guidelines also contained several other provisions relating to interest rates, credit tenor, repayment terms and moratorium on the credit facility. The CBN, as the provider of the non-oil export sector facility also acts as the managing agent, issuer of all guidelines concerning it, monitor and regulator of facility disbursements/utilization, discipliner of erring participating institutions, risk bearer and conductor of impact assessment periodically.

2.1.5.2 The African Continental Free Trade Area (AFCFTA) Zero Oil Plan

Yakusak (2021) outlined a strategy put in place by the NEPC termed the "Zero Oil Plan (ZOP)" as a step to tackling the monumental global oil crash of 2016. The aim of the ZOP strategy is to make oil become relevant as a determinant of exports in Nigeria. In essence, the ZOP was developed as a strategy to boost foreign exchange revenue through non-oil exports. The plan contained export promotion policies for about 22 products that could generate more than US$30 billion every year. The products included cotton, leather work, rice, cocoa, sugar, fertilizer, palm oil, petrochemicals, rubber, oranges, cement, banana, spices, cassava, cashew, cowpea, shea butter, sesame, gold, soya, tomato and ginger. The AFCFTA also aimed at positioning the small and medium scale enterprises towards developing effective exports marketing strategies for their products. Added to this are other incentives put in place by the AFCFTA including 10% returning of exporters annual profits, post-shipment incentives, provision of exports guarantees and export credit certificates to be defrayed by FGN promissory notes, export development fund, export development facility among others. According to Yakusak (2021), the FGN through AFCFTA has embarked on specific programmes to strategically develop the Nigerian non-oil sector in recent years.

2.2 Theoretical Review

2.2.1 The IS-LM Theory

The IS-LM framework developed by Hicks (1980) posits that change in economic variables could either stimulate or have a dampening effect on economic growth, including non-oil sector. The tenet of the IS-LM theory is that economic activities and rates of interest depend on the link between aggregate goods and services market and money market. The theory, termed a position of general equilibrium, refers to the income and interest rate levels that generates concurrent equilibrium in goods/services and money markets. While the goods/service market is influenced by fiscal policies, the money market is influenced by monetary policies. According to the theory, the interaction of IS (goods market) and LM (money market) curves determines the level of interest rate and real income. On the one hand, fiscal policies affect the equilibrium by causing a shift forward or backward in the IS curve. On the other, monetary policies affect the equilibrium by causing a shift backward or forward in the LM curve.

So, by altering fiscal and monetary policy variables, policy makers can target and achieve a specific macroeconomic objective. For example, raising interest rate (in the LM – money market) can cause a decline in private investment, resulting in reduction in non-oil export and vice versa. According to Aliyev and Nadirov (2016), observed that the functional linkage of monetary and fiscal policies with non-oil exports has been established which further triggered more empirical studies on how monetary and fiscal policy indicators affect the volume of non-oil exports.

2.2.2 Export-led Growth Hypothesis

The export-led growth (ELG) hypothesis was postulated by Innis (1930). Yelwa and Diyoke (2013) stated that there is empirical evidence which support the argument that export is a necessity for enhanced revenue and economic growth and that this has motivated more research into export-led growth idea. Yang (2014) restated the export-led growth (ELG) hypothesis which posits that outside oriented trade policy stimulates economic growth faster than other growth strategies. The proponents of this hypothesis argued that ELG stimulates domestic economic growth through its contributions to aggregate output, made possible by efficient use of available resources, on one hand, and through capital formation brought about by improved capital goods accumulation through foreign exchange. Kollie (2020) stated that the ELG main position is that if policymakers desire to reduce the long route to economic growth, they must prioritize exportation of goods and services. The ELG hypothesis holds that the benefits of exports far outweigh whatever cost that may arise from it. According to Jimenez and Ramzi (2013), export (particularly of manufactured products) attracts some positive externalities to other sectors of the local economy. The other sectors, benefiting from such positive externalities, can then produce goods and services which they could not have produced without the externalities. This is apart from the benefits of exports to the country's balance of payments. However, as noted by Feder (1963), endogenous growth models also complement the position of the ELG hypothesis by emphasizing domestic economic growth is not only dependent on exports but also on imports. Hence, the endogenous school argued that human and physical factors contribute to economic growth and they are embedded in both import and export of goods and services.

Elechi et al (2016) argued that some positions have been advanced to justify the ELG hypothesis chief of which is that from demand side there is possibility that persistent growth demand may not occur in domestic markets which are limited because of the size of available domestic demand power. On the contrary, exports provide limitless markets and opportunities.

2.3 Empirical Review

Hasanov et al (2022) examined the effect of fiscal policy on non-oil output and exports in Saudi Arabia, for the period 1989–2018. For robustness's sake, the authors used several econometric techniques: ARDL, FMOLS, DOLS, CCR and ECM to ascertain the effect of selected fiscal policy variables, namely, current government expenditure, capital government expenditure non-oil employment, value added, capital stock. Non-oil employment rate, government current expenditure and capital expenditure exerted a positive and significant influence on non-oil output. Furthermore, it was discovered that economic reforms did not cause any break in long-run or short-run relationship. This is a well-articulated study, but the number of macroeconomic variables used is limited to government expenditure and employment issues which seem to limit the applicability of the findings of this research. In addition, output of non-oil was used in aggregate without sectoral consideration.

Aisyah and Renggani (2021) used panel data regression on inflation, GDP, exchange rate, and trade openness on non-oil exports performance in Indonesia, in relation to her trade partners: Vietnam, Philippines, Thailand, India, and Saudi Arabia from 2014 to 2018. Results obtained from the study revealed that GDP and trade openness exerted significant positive effects on non-oil while inflation rate revealed significant negative. The authors recommended that Indonesia should re-channel her exports to other countries apart from her major trading partners. The study of Aisyah and Renggani (2021) used aggregate non-oil export while this study spited it into agriculture and manufacturing sectors for easy comparison.

Alzyadat (2021) investigated the effect of sectoral bank credit to agriculture, mining, health, water, manufacturing, construction, transportation, electricity, retail and wholesale trade, finance, transportation and communication and services sectors on their output in Saudi-Arabia between 1970 and 2019. Applying the ARDL technique to analyze annual data to establish long and short-run relationship, results showed that in all, banks' credit had a positive and significant effect on non-oil sector output growth Saudi Arabia. Impliedly, all sectors examined witnessed positive and significant effect of macro variables on non-oil output except mining and agricultural sectors. This study focused on how banks' credit could improve different sectors of the economy while the focus of this study is how macroeconomic variables influence non-oil export in Nigeria.

Tolulope and Olalekan (2017) studied the effect of strategies put in place by selected sub-Saharan African countries to promote non-oil exports between 1970 and 2014. The authors used panel least squares and Generalized Moment Methods (GMM) to examine the effect of policies including credit to private sector (CPS), exchange rate, government expenditure and FDI in non-oil sector on the latter's output. Findings revealed that the stated policies affect non-oil exports significantly. However, while CPS positively and significantly affects non-oil exports, government expenditure, FDI and exchange rate crowded out the growth effect of strategies designed to promote exports. The authors' findings that all the policies affected non-oil exports positively and significantly and growth effect of exchange rate and FDI was crowded out appear contradictory. Authors need to clearly differentiate between the general and growth effects in their analysis.

Considering the effect of exchange rate (a macroeconomic variable) on non-oil exports performance, in a study conducted in three MINT countries (Mexico, Indonesia, Nigeria and Turkey) Asteriouset al.(2016) examined how exchange rate volatility affected foreign trade. Using a GARCH model, the authors found that on the short-run, exchange rate volatility has considerable effect on exports but did not on the long-run. The results differed significantly among the MINT countries examined. This study would have been better conducted in a comparative way, especially because the three MINT countries which are assumed to belong to the same economic group actually differ.

In Pakistan, Bahmani-Oskooeeet al. (2016) studied how exchange rate affected 57 industrial firms exporting to the United States. Analyzing a highly disaggregated data with GARCH, the authors discovered that in the short-run, exchange rate only affected the exports of some of the selected industries and that some of the industries could not prolong the effect to long-run. Large firms also took advantage of changes in exchange rate to grow exports.The authors failed to recommend what industries with no prolonged effect need to do to improve their position.

Khaled (2016) observed that changes in foreign exchange rate during 1982-1997 in terms of currency depreciation affected selected G-7 countries exports negatively during the period. The author carried out the study in 2016 with a study period of 1982-1997. The period between conduct of study and scope of it is rather too long.

Yusif-Abd et al (2015), in Sudan, empirically examined the effect of selected macroeconomic variables (RGDP, trade openness, and exchange rate) on non-oil exports between 1990 and 2012 using the OLS regression technique. Findings from the study revealed that RGDP, trade openness and exchange rate positively affected non -oil exports in the country during the period. This study failed to carry out preliminary tests before it used OLS.Jalal and Jalil (2015) assessed the effect of some economic indicators on non-oil exports performance in Iran for the period 1970–2012 using the VECM analytical technique. These authors found that an inverse relationship existed between inflation rate, exchange rate volatility and volume of non-oil exports. The inclusion of volatility suggests that the effect of exchange rate be examined with GARCH instead of VECM.

Aweet al.(2021) examined the non-oil export in Nigeria with Kalman filter and Markov chain Monte Carlo and Bayesian inference models. Specifically, the study examined the predictive performance of selected macroeconomic indicators on non-oil export which include GDP and lending rate. Results of the study showed that these macroeconomic have significant effect on non-oil exports fluctuations. Though conducted in Nigeria, examining the non-oil sector output in aggregate terms and not on sector basis is a gap the present study filled.

Ikpe et al. (2021) assessed how exchange rate volatility affected non-oil trade in Nigeria using a GARCH and VAR models. The authors analyzed the effect of exchange rate, relative prices, world import capacity and domestic import's capacity on non-oil exports and imports for Nigeria and found that exchange rate volatility had a negligible negative effect on non-oil export which soon evaporated with a short period. The authors cautioned against dependence on exchange rate modification for achievement of improved non-oil trade as it can become counter- productive. This study majorly focused on exchange rate as one of the macroeconomic variables while the inclusion of other macroeconomic variables was added in this study. In addition, aggregate non-oil export was considered.

Oyelami and Ajeigbe (2021) investigated how exchange rate volatility affected Nigeria's non-oil export from industry-level point of view. The study covered between 1996 and 2015 with emphasis on the effect of exchange rate volatility on agriculture, food and manufacturing industries exports using ARDL. Interestingly, whereas the effect exchange rate volatility was negative in the short-run, the effect fizzled before long-run, implying that these industries must have taken steps to develop strategies to neutralize the short-run negative effect. The authors therefore recommended that Nigeria should concentrate more on develop strategies that will promote long-run positive effect of exchange rate volatility on the identified industries. The study of Oyelami and Ajeigbe (2021) focused on volatility of exchange rate in relation to non-oil export while this study focused on some other macroeconomic variables aside exchange rate alone on non-oil export in Nigeria.

Orji et al.(2021) examined the interconnection of exchange rate and non-oil export in Nigeria between 1985 and 2018. Specifically, the authors analyzed data for six macroeconomic indicators, namely, trade openness, exchange rate, credit to private sector (CPS), inflation, interest rate and foreign direct investment and non-oil exports with ARDL and found that exchange rate, CPS and FDI positively impacted on Nigeria's non-oil exports for the period under study. The study of Orji et al. (2021) used aggregate non-oil export whereas; this study duel on two major sectors of non-oil (agriculture and manufacturing). In addition, other macroeconomic variables were added.

III. MODEL SPECIFICATION

The study adapted the model of Fadol (2020) while analysing how macroeconomic indicators affect the non-oil sector output of Saudi Arabia. Fadol (2020) model is therefore stated as:

$NOE = f(INF, MR, EX, GDP)$ ……..(3.1)

Where:
NOE = Non-oil exports performance
INF = Inflation Rate
MR = Monetary Reserve
EX = Exchange Rate
GDP = Gross Domestic Product

Since the study of Fadol (2020) was carried out in Saudi Arabia, the inclusions of other macroeconomic variables that are influenced by Nigerian economic factors were added. For instance, inflation rate was replaced with consumer price index to account for the effect of market price of goods and services within the country. Also, interest rate which represents the cost of doing business was added. Therefore, the model for macroeconomic variables and non-oil exports is hereby expressed in a functional form as:

$NOE = f(CPI, MS, LDR, EXR, RGDP)$ ……..(3.2)

$NOE_A = f(CPI, MS, LDR, EXR, RGDP)$ ……..(3.3)

functional form, it becomes:

$NOE_A = \beta_0 + \beta_1 CPI + \beta_2 MS + \beta_3 LDR + \beta_4 EXR + \beta_5 RGDP + \mu$ ……3.4

To bring the data for all the variables into the same unit, the study will introduce log into it. The model becomes:

$LogNOE_A = \beta_0 + \beta_1 LogCPI + \beta_2 LogMS + \beta_3 LogLDR + \beta_6 LogEXR + \beta_7 LogRGDP + \mu$ ……..3.5

For time series consideration, the model is hereby stated as:

$Log(NOE_A)_t = \beta_0 + \beta_1 (LogCPI)_t + \beta_2 (LogMS)_t + \beta_3 (LogLDR)_t + \beta_4 (LogEXR)_t + \beta_5 (LogRGDP)_t + \mu_t$ ……3.6

For error correction mechanism, the model becomes:

$$\Delta Log(NOE_A)_t = \beta_0 + \sum_{i=0}^{n} \beta_1 Log(CPI)_{t-1} + \sum_{i=0}^{n} \beta_2 Log(MS)_{t-1} + \sum_{i=0}^{n} \beta_3 Log(LDR)_{t-1} + \sum_{i=0}^{n} \beta_4 Log(EXR)_{t-1} + \sum_{i=0}^{n} \beta_5 Log(RGDP)_{t-1} + \sum_{i=0}^{n} (ECM)_{t-1} \quad \text{……..3.7}$$

Where:

NOE_A	=	Non-oil Agricultural Export
CPI	=	Consumer Price Index (Inflation)
MS	=	Broad Money Supply
LDR	=	Lending Rate
EXR	=	Exchange Rate
RGDP	=	Real Gross Domestic Product
μ	=	Error Term
t	=	Time Dimension
β_0	=	Constant Parameter
$\beta_1 \ldots \beta_5$	=	Regression Coefficients

3.1. Pre-Estimation Diagnostics

Pre-estimation tests were carried out to ascertain the statistical properties of variables employed and also to determine the most appropriate estimation technique(s) suitable in analyzing data and drawing inference. The pre-estimation diagnostics carried out in this study included descriptive statistics, and test of unit root.

3.1.1. Descriptive Statistics

The descriptive statistics revealed the statistical properties of all the variables to be used in this study. Specifically, the descriptive statistics included the variables mean, median, standard deviations, minimum values, maximum values. skeweness, kurtosis and Jarque- Bera statistics which tests whether the variables are normality or not.

3.1.2. Test of Variable Stationarity

To ascertain whether the variables are stationary (without unit root), the study used Augmented Dickey Fuller (ADF) unit root test. This test established the order of stationarity of each of the variables to be analyzed. Econometrically, while a general ADF test is generally expressed as:

$\Delta Y_t = \beta_1 + \beta 2_t + \delta Y_{t-1} + \alpha_1 \Sigma \Delta Y_{t-1} + \varepsilon_{it}$ ..... (3.8)

Where

$\Delta Y_t = (Y_{t-1} - Y_{t-2})$ = Number of lag difference

β_1= Constant

$\beta 2$ = Coefficient of regression respectively

ε_{it}= stochastic disturbance term

The test is based on the Akaike Information Criterion (AIC) for lag selection. The decision rule in stationarity test is to reject the null hypothesis if the probability of F-Statistics (Prob. F_{cal}) is less than the chosen level of significance ($p<0.05$)and vice versa.

3.1.3 Estimation Techniques

Having subjected the research variables to selected pre-estimation tests, the research model was analyzed with Co-integration Test, Vector Error Correction Mechanism (VECM) or Vector Autoregressive (VAR) techniques depending on whether long-run relationship is upheld. Thereafter, the causality test will be carried out using Granger causality test. Brief descriptions on these estimations are provided thus:

3.1.4 ARDL Co-integration Test

For a set of variables to affect each other on the long run, there must be a co-integrating relationship among them. This study used the ARDL co-integration test to ascertain whether there is long-run co-integration among all the variables selected. The results of this test also form the basis for the choice of estimation techniques. The equation for co-integration test is expressed in terms of a vector autoregressive model as:

$Y_t = \Phi D_t + \pi_t Y_{t-1} + \cdots\cdots + \pi_k Y_{t-k} + \varepsilon_t$ ..... (3.9)

D_t = deterministic term

Yt = n x 1 (order 1 stationary of variables)

Π = n x n matrix

3.1.5 Pairwise Ganger Causal Test

Granger (1969) stated that if past changes in a particular variables X_t (macroeconomic variables) are able to predict current changes in another variable Y_t, (non-oil exports) more than past changes in the latter can cause on itself, then variable X is said to Granger cause variable Y. If otherwise, then variable X does not Granger cause variable Y and vice versa.

The decision criterion in a standard Granger causality is done by comparing the probability of F_{cal} with the level of significance. A probability of calculated F-Statistics (F_{cal}) less than the level of significance ($p<0.05$) implies that a causal relationship exists between X and Y and vice-versa. Findings from the casual effect analyses addressed research objective 5.

The Granger causality test for this study is therefore; follow the specified equations in 3.14-3.23.

$$NOE_t = \sum_{i=1}^{n} \beta_i \, NOE_{t-1} + \sum_{j=1}^{n} \alpha_j \, CPI_{t-j} + u_t \quad \ldots\ldots\ldots\ldots \qquad 3.10$$

$$CPI_t = \sum_{i=1}^{n} \delta_i \, CPI_{t-1} + \sum_{j=1}^{n} \varphi_j \, NOE_{t-j} + u_t \quad \ldots\ldots\ldots\ldots\ldots\ldots \qquad 3.11$$

$$NOE_t = \sum_{i=1}^{n} \beta_i \, NOE_{t-1} + \sum_{j=1}^{n} \alpha_j \, MS_{t-j} + u_t \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad 3.12$$

$$M2_t = \sum_{i=1}^{n} \delta_i \, MS_{t-1} + \sum_{j=1}^{n} \varphi_j \, NOE_{t-j} + u_t \quad \ldots\ldots\ldots\ldots \quad 3.13$$

$$NOE_t = \sum_{i=1}^{n} \beta_i \, NOE_{t-1} + \sum_{j=1}^{n} \alpha_j \, LDR_{t-j} + u_t \quad \ldots\ldots\ldots\ldots \quad 3.14$$

$$LDR_t = \sum_{i=1}^{n} \delta_i \, LDR_{t-1} + \sum_{j=1}^{n} \varphi_j \, NOE_{t-j} + u_t \quad \ldots\ldots\ldots\ldots \quad 3.15$$

$$NOE_t = \sum_{i=1}^{n} \beta_i \, NOE_{t-1} + \sum_{j=1}^{n} \alpha_j \, EXR_{t-j} + u_t \quad \ldots\ldots\ldots\ldots \quad 3.16$$

$$EXR_t = \sum_{i=1}^{n} \delta_i \, EXR_{t-1} + \sum_{j=1}^{n} \varphi_j \, NOE_{t-j} + u_t \quad \ldots\ldots\ldots\ldots \quad 3.17$$

$$NOE_t = \sum_{i=1}^{n} \beta_i \, NOE_{t-1} + \sum_{j=1}^{n} \alpha_j \, RGDP_{t-j} + u_t \quad \ldots\ldots\ldots\ldots \quad 3.18$$

$$RGDP_t = \sum_{i=1}^{n} \delta_i \, RGDP_{t-1} + \sum_{j=1}^{n} \varphi_j \, NOE_{t-j} + u_t \quad \ldots\ldots\ldots\ldots \quad 3.19$$

3.6 Post-Estimation Tests

The residuals of estimated model in this study were tested in four different ways: residual auto-correlation test, normality test, heteroscedasticity test (ARCH- Lagrange Multiplier) and the CUSUM test. The residual auto-correlation test (correlogram – Q-Statistics) examine whether residuals have autocorrelation problem. The test of residual normality was done using the Jarque-Bera (histogram) test which ascertainedif the residuals are normally distributed. A normally distributed residual should have an insignificant Jarque-Berastatistics. The ARCH (LM) test was used to ascertain whether the standardized residuals possess further heteroscedasticity.

Descriptive Statistic of Variables

Descriptive on non-oil agricultural export, non-oil manufacturing export, consumer price index, broad money supply, lending rate and real gross domestic product to ascertain if the variables follow normality distribution . It indicated that NOEA, NOEM, CPI, MS, LDR, EXR and RGDP have a mean value of 3.163619, 2.544999, 2.690574, 7.513306, 2.881804, 4.340385, 4.341800 and 10.46064 respectively. The extent of the variables' deviation as reported by the standard deviation showed that NOEA, NOEM, CPI, MS, LDR, EXR and RGDP have a standard deviation of 0.143883, 0.367592, 0.660495, 2.434564, 0.209729, 1.405432 and 0.560912 respectively which implied that MS deviated higher while NOEA has lower deviation rate. The Skewness indicated that NOEM, MS, and EXR are negatively skewed, implied a long-left tail while NOEA, CPI, LDR, RGDP indicate a positive value therefore known to have a long right tail.

The Kurtosis of NOEA, LDR, and EXR are known to be leptokurtic as they have a value that exceeded (3) while NOEM, CPI, MS, RGDP are known to be platykurtic since they have a value not up to 3. The P-value for Jarque-Bera of NOEA and EXR are 0.009166 and 0.021073 respectively and this indicated absence of normality distribution since they have a p-value that is below 5%.

Model Analysis (ADF Unit Root Test)

In as much as the study involves time series data, it becomes vital to know the order of integration of the variables either to determine the required methods suitable for the analysis or to fulfill certain conditions. Arising from this, unit root test of ADF being one of the most widely popular methods often use for time series analysis was employed in this study.

The unit root on NOEA, NOEM, CPI, MS, LDR, EXR and RGDP are reported . Its level result revealed that CPI, LDR and EXR attained their stationarity status. It connotes that the null hypothesis H_0 that validated the existence of unit-root for these variables were rejected. On the other hand, NOEA, NOEM, MS, and RGDP were not stationary at level, therefore, accepts the null hypotheses for these variables. The non-stationary of NOEA, NOEM, MS, and RGDP necessitated further testing at first differencing and it showed that NOEA,

NOEM, MS, and RGDP that were not stationary at level became stationary after converting them to first difference. The order of their stationary level was considered if and at absolute term their ADF values exceeded 5% critical level. With this result, it can be observed that unit root tested on variables used in the analysis of macroeconomic variables and performance of non-oil export in Nigeria exhibited mixed integration order and therefore call for the application of ARDL in the analysis. Since ARDL model is supported in this study, appropriate lag that can provide robust outcome is needed. In this case, Vector Autoregressive Estimation was employed in the determination of lags.

Lag Length Selection

In the determination of lag structure for ARDL model, VAR lag length was considered and it revealed that for non-oil agricultural export, lag 2 is considered appropriate . The outcome of the lag length result indicated that lag 2 is supported by LR, FPE, AIC, and HQ while lag 1 is supported by SC. In as much as majority of the criterion suggested lag 2, this was taken as the best lag structure for NOEA model.

ARDL (Unrestricted) NOEA Model

R^2 = 0.897551; **Adj. =** 0.816669; **F-stat.** = 11.09716; **Prob. (F-stat.)** = 0.000002

Short-Run ARDL Result for NOEA Model

The short-run estimated for NOEA employed on macroeconomic variables and performance of non-oil export in Nigeria revealed that the previous period of NOEA is positive and significantly related with performance of non-oil agricultural export to the turn of 0.552918 units, implied that a unit increase in previous period of NOEA will cause NOEA to rise by 0.552918 units. Conversely, the current period of MS insignificant and inversely related to NOEA in Nigeria to the turn of -0.166017, implied that as MS rises by a unit will result in -0.166017 unit reductions in NOEA in Nigeria. Contrarily, its lag one value has a direct impact to the turn of 0.277555 unit, implied that as previous period of MS rises by a unit will result in 0.277555 unit increase in NOEA. The current period of LDR is not significant with an indirect impact on NOEA with a value of -0.078932 units, implied that as LDR rise by a unit will result in 0.078932 unit decrease in LDR. Contrarily, its previous period is significant with direct impact of 0.176635 units with NOEA, implied that as lag one of LDR rises by a unit will result in 0.176635 unit increase in NOEA. The current period of EXR showed a direct but insignificant impact with 0.025707 value on NOEA, implied that as EXR rises by a unit in its current period will result in 0.025707 unit increase in NOEA contrarily, its lag one value is not significant with an indirect impact of -0.129774 with NOEA, implied that as EXR in its previous period increases will result in -0.129774 unit reduction in NOEA. The current period of RGDP and its lag one value indicated a coefficient of 1.406794 and 1.640326 units respectively, indicated that as RGDP in its current and previous periods rises will result in corresponding increase of 1.406794 and 1.640326 respective unit increase in NOEA.

The coefficient of ECM for NOEA is rightly signed with appropriate level of significant of -1.258761 which connotes an adjustment of 126% short-run disequilibrium is considered in the model before reaching the long-run. The magnitudes of this coefficient revealed a high adjustment speed of about 126%.

Long-run NOEA Model

The long-run for NOEA model showed that if CPI,MS, LDR, EXR and RGDP are fixed at zero, NOEA would rise by 0.934095. Similarly, CPI has a significant direct impact of 0.078042 units with performance of non-oil agricultural export, implied that as CPI rises by a unit will increase NOEA by 0.078042 units. The coefficient of MS is significant but inversely related with -0.209431units, implied that as MS rises by a unit would decrease NOEA by 0.209431 value. LDR has a coefficient of -0.272658 units with performance of non-oil agricultural export, implied that as LDR rises by a unit will decrease NOEA by 0.272658 units in the long-run. EXR has a direct impact of 0.270237 unit with NOEA, implied that as EXR rises by a unit will result in 0.270237 unit increase in NOEA. Lastly, RGDP has a direct but insignificant impact with performance of non-oil agricultural export, implied that as RGDP rises by a unit will result in 0.270237 units increase in NOEA.

Pairwise Granger Causality Test

The cause of one variable with the other was carried out using Granger causality test for model that represented performance of non-oil agricultural export, it was indicated that none of the variable causes the other has they all have p-values that exceeded 5%, thus implied that the flow of relationship between variables are independently determined.

Hypotheses Testing on Macroeconomic Variables and Non-oil Export (NOEA)

Performance in Nigeria

In as much as inflation rate, exchange rate, interest rate, broad money supply and exchange rate havetheir p-valuesof 0.0051, 0.0282, 0.0160 and 0.0002 respectively lower than 5% i.e $P < 0.05$ (i.e. 0.0051, 0.0282, 0.0160 and 0.0002<0.05), it was concluded that a significant direct impact exists between inflation rate, exchange rate, interest rate, broad money supply and exchange rate and the performance of agricultural export in Nigeria. Therefore, rejects the null hypotheses and accepts the alternative hypotheses for these variables. On the other hand, real gross domestic product has a p-value of 0.2738 which is greater than 5% i.e $P > 5\%$, it was concluded that real gross domestic product has no significant impact on the performance of agricultural export in Nigeria.

Diagnostic Tests

The diagnostic tests conducted on the analysis of macroeconomic variables on the performance of non-oil export are Serial Correlation Normality, and Heteroskedasticity Test to reveal whether the ARDL model produced the required results.

Normality Test for Performance of Non-oil Agricultural Export

The ARDL normality test on macroeconomic variables and performance of non-oil export is shown in Figure 4.1 and 4.2. Jarque-Bera value in Figure 4.1 is 5.409750 and its p-value is 0.066879, implied that variables used in the examination macroeconomic variables and performance of non-oil export are normally distributed.

Test for Heteroskedasticity

Table 4.10 revealed the heteroskedasticity test for performance of non-oil agricultural and manufacturing export. NOEA and NOEM have p-value of observed R^2 of 0.1962 and 0.6180 respectively. Since their p-values exceeded 5% level of significant, it was concluded that performance of non-oil agricultural and manufacturing exports has no heteroskedasticity problem.

IV. SUMMARY OF FINDINGS

The study revealed that inflation rate exhibited a direct and significant impact on the performance of non-oil agriculture export. Broad money supply on the long-run indicated a significant negative impact with the performance of non-oil agriculture export in Nigeria. The study showed that interest rate depicted an indirect but significant impact on the performance of non-oil agriculture in Nigeria. It was discovered that exchange rate has an indirect but significant impact on both the performance of non-oil agriculture in Nigeria. Real gross domestic product indicated a direct but insignificant impact on the performance of non-oil agricultural export. The Granger causality test under performance of non-oil agricultural export indicated that all the selected macroeconomic variables fail to cause one another, as their p-values are lesser than 5% .

V. CONCLUSION

The selected macroeconomic variables co-integrate with performance of non-oil (agricultural) export in Nigeria. The study revealed that macroeconomic variables (consumer price index, broad money supply, lending rate, exchange rate) significantly influence performance of agricultural non-oil export in Nigeria while the influence of real gross domestic product is not significant with agricultural non-oil export . Based on this outcome, it was concluded that a positive impact exists between consumer price index, exchange rate, real gross domestic product and non-oil export while the impact of money supply and exchange rate is inversely related with non-oil export in Nigeria.

Arising from causality test outcome, it was concluded that performance of non-oil agricultural export indicated that all the selected macroeconomic variables fail to cause one another, as their p-values are lesser than 5% .

VI. RECOMMENDATIONS

Contrary to what had been documented in literature, broad money supply is significant but inversely induced the performance of non-oil export in Nigeria. This suggested that government through its monetary authorities should strengthening the aggregate money supply into the economy by injecting funds on agro industries needed to boost export in these sectors. In as much as the selected macroeconomic variables employed are significant in explaining performance of non-oil export in Nigeria, it recommended that for economic diversification to be effective a country should experience stability in its macroeconomic variables at all time.It was also revealed that lending rate depicted significant negative relationship with non-oil export in Nigeria, the study therefore recommended that as a weapon for macroeconomic stabilization, lending rate should be kept to the barest minimum to encourage performance in the agricultural sector.Laws and policies meant to simplify export procedures and ensure economic diversification need to be developed as this will encourage massive

participation in non-oil sectors and will therefore increase the country export base which will in turn increase economic growth of Nigeria.

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