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Export Diversification Drive: The Role of Nigerian Manufacturing Sector

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ABSTRACT
This research delves into the enigmatic relationship between Nigeria's manufacturing sector and the nation's drive for export diversification. Leveraging a regression analysis and time series data from 1985 to 2022, it paints a nuanced picture of their complex interplay. The analysis confirms the stationarity of all variables at first differenced. Additionally, the Johansen co-integration test reveals a long-run equilibrium relationship between them, suggesting that while their short-term fluctuations may diverge, they are ultimately bound by a deeper interdependence. The analysis exposes a weak and negative association between the two, hinting at the meagre contribution of the manufacturing sector to export diversification during the studied period. This underscores the need for a critical reevaluation and targeted interventions to unlock the sector's potential as a powerful engine of export growth. Therefore, the study advocates for a paradigm shift in approach. Instead of government's piecemeal efforts, it should champion the creation of a robust and vibrant manufacturing ecosystem, pulsating with innovation and productivity. This vision will envision modern factories humming with cutting-edge processes, meticulously crafting high-quality goods capable of holding their own on the global stage. From value-added agricultural products to sophisticated machinery, the potential portfolio of Nigerian exports is vast and brimming with promise.

Keywords: Export Diversification, Manufacturing Sector, Value Added

Introduction

Like many developing nations, Nigeria has embarked on a determined journey to diversify its economy, with a particular focus on bolstering its manufacturing and processing industries. This strategic shift stems from the profound understanding that a diversified economic bedrock fosters both stability and robust growth.

Since attaining independence, Nigeria has grappled with the formidable challenge of export diversification. This struggle largely arises from the skewed structure of its exports, heavily reliant on a single commodity: oil. This persistent dependence has rendered the country's economy vulnerable to the whims of global oil price fluctuations, hindering its resilience. Recognizing the critical need for a more diversified and sustainable export base, the government has implemented various trade policies and initiatives. However, achieving this elusive goal has proven to be a persistent challenge.

Export diversification is a multifaceted strategy that serves as the cornerstone of economic resilience and sustained growth. It encompasses not only the expansion of a nation's export activities but also recognizes the pivotal role played by the manufacturing sector in driving overall economic diversification. This approach holds particular significance for countries like Nigeria, aiming to break free from her dependence on a limited range of exports, such as oil, and cultivate a more robust and diversified economic landscape.

The manufacturing sector occupies a central position in the context of export diversification. By adding substantial value to raw materials, this sector facilitates the creation of a diverse array of finished goods suitable for export. By promoting the export of such manufactured products, the country can shield itself from the volatility of commodity prices and external market fluctuations, thereby enhancing economic stability.

According to data from the National Bureau of Statistics (NBS) for the year 2021, the manufacturing sector made a modest contribution of 5.2% to the real Gross Domestic Product (GDP) and accounted for 9% of the total export revenue [1]. However, a striking observation emerges: only 4% of Nigeria's manufacturing output found its way into the export market in 2021. This already modest export share further contracted to a mere 2% during the initial three quarters of 2022.

These statistics highlight the significant challenges and constraints faced by the Nigerian manufacturing industry in

achieving meaningful export diversification. The minimal share of this sector in the export market underscores the urgency of scrutinizing the nation's export diversification efforts and the role of its manufacturing sector, which possesses the potential to be a powerful engine for export diversification. Given the current low contribution of the manufacturing sector to overall economic growth, this research project assumes an imperative nature.

By highlighting the intricate link between a thriving manufacturing sector and export diversification drive, this research project delves into the critical question: can Nigeria unlock the potential of its manufacturing sector to propel its export diversification and ultimately drive sustainable economic development?

Statement of the Problem

The crucial value of any research lies in its capacity to address critical societal issues. In the context of Nigeria's export diversification, addressing the underperformance of the manufacturing sector becomes an imperative endeavor. To fulfill the ambitious mandate of national industrialization, deliberate government efforts are needed to empower this vital sector. The lagging performance of the Nigerian manufacturing sector, failing to capitalize on its inherent potential, exposes a pressing need to investigate the underlying causes of its stagnation. In today's interconnected world, where competition transcends national borders, Nigeria cannot afford to fall behind in revitalizing its manufacturing sector. This research project aims to shed light on the crucial role the manufacturing sector can play in propelling Nigeria's export diversification journey.

Research Objectives

This study shall be guided by the following objectives:
i. To examine the relationship between Nigeria's manufacturing sector and its national export diversification strategy
ii. To investigate factors hindering the Nigerian manufacturing sector's full potential, leading to its underwhelming contribution to national GDP.
iii. To identify actionable solutions and policy recommendations to revitalize the Nigerian manufacturing sector.

Research Questions

This research work will enable the researcher to come up with answers to the following research questions namely:
i. What is the intricate relationship between Nigeria's manufacturing sector and its national export diversification strategy?
ii. What are the factors hindering the Nigerian manufacturing sector's full potential, leading to its underwhelming contribution to national GDP?
iii. What are the actionable solutions and policy recommendations to revitalize the Nigerian manufacturing sector?

Significance of the Study

This study is paramount for comprehending the vital role played by the manufacturing sector in achieving the Export Diversification Drive set forth by the Nigerian government. It offers theoretical insights into the correlation between the manufacturing sector and the Export Diversification Drive, emphasizing the sector's crucial contribution to economic growth. The practical significance lies in guiding policymakers towards revitalizing the nation's manufacturing sector. The research outcomes will provide invaluable insights for decision-makers, the advocacy function of the Manufacturers Association of Nigeria (MAN), and manufacturing companies. Additionally, this study will serve as a credible resource for a broad audience, including students and researchers keen on this subject area.

Literature Review

This section embarks on a critical journey through both theoretical and empirical research, examining the intricate relationship between the manufacturing sector and export diversification. Our aim is twofold: first, to illuminate the theoretical foundations underpinning this crucial connection, and second, to assess the current landscape of relevant empirical literature. Furthermore, we will navigate the unique contribution this study seeks to make, pinpointing existing gaps in the literature that our research endeavors to bridge. By meticulously synthesizing theoretical frameworks and scrutinizing prior research, this section lays the groundwork for the subsequent analysis and findings, paving the way for a nuanced understanding of our study's objectives and methodology.

Conceptual Review

Now, let's look at the different ideas that shed light on the study's central question.

Nigeria's Export Products Structure

Nigeria's export profile is characterized by the dominance of primary products, which often have lower value compared to processed goods. The country heavily relies on the export of commodities such as crude petroleum, petroleum gas, refined petroleum, cocoa, rubber, palm oil, sesame seeds, cashew nuts, and groundnuts. While these products constitute a significant portion of Nigeria's export revenue, they are generally considered to have less value in the international market.

The primary nature of these exports poses challenges, as they are susceptible to price fluctuations in the global market for commodities. For instance, the prices of crude oil, Nigeria's major export, are highly volatile and subject to geopolitical and economic factors.

In addition to the mentioned primary products, Nigeria's exports span various categories, including animal and vegetable by-products, animal hides, animal products, arts and antiques, chemical products, foodstuffs, footwear and headwear, instruments, machines, metals, mineral products, miscellaneous items, paper goods, plastic and rubbers, precious metals, stone and glass, textiles, transportation equipment, vegetable products, and wood products.

Despite the diversity in export categories, there is a common challenge associated with the low value addition to these products before exportation. The lack of significant processing and value addition limits the earning potential from exports, as the country often sells raw materials rather than finished goods. This situation results in a lower influx of foreign exchange compared to if the products underwent further processing or manufacturing within the country.

Based on the National Bureau of Statistics (NBS) data, the monetary value of Nigeria's export products has been experiencing a persistent decline. This trend underscores the challenges faced by the country's export sector and raises concerns about the sustainability of its economic growth model [1].

The declining monetary value of Nigeria's export products serves as a call to action for policymakers to prioritize initiatives that will strengthen the resilience and sustainability of the country's export sector. A more diversified and value-added approach to exports will not only enhance foreign exchange earnings but also contribute to the overall economic development and prosperity of the nation.

Nigeria's Exports Diversification Efforts

Export diversification is a crucial strategy for driving economic growth by expanding the range of exported goods, reducing reliance on a narrow set of products. Since Nigeria's independence in 1960, the government has implemented various policies to diversify the economy, especially focusing on the non-oil sector.

One of the early initiatives was the National Accelerated Food Production Project (NAFPP) in 1972, aimed at improving agricultural output through better farming practices. The Nigeria Agricultural and Cooperative Bank (NACB) was established in 1973 to provide financial support to small-scale farmers. These initiatives laid the groundwork for agricultural diversification.

The Export Processing Zone (EPZ) established in 1991 provided a specialized economic zone for manufacturing goods exclusively for export, attracting both domestic and foreign businesses. This initiative aimed to reduce bureaucratic constraints and encourage export-oriented activities, contributing to export diversification efforts.

After the restoration of democracy in 1999, Nigeria witnessed increased support for small and medium-sized enterprises (SMEs) to boost exports. Policies were implemented to foster economic diversification, particularly in industries beyond oil. This led to substantial growth in non-oil exports, indicating the success of these targeted policies.

The Zero Oil Initiative launched in 2016 aimed to reduce oil dependency by boosting non-oil exports and fortifying foreign reserves. The initiative identified 22 products across industries for enhanced export focus, aligning with the Economic Recovery and Growth strategy to diversify the economy.

Additionally, measures like the prohibition on rice imports and the Anchor Borrowers Programmer (ABP) provided support to increase domestic rice production, aiding small and medium-sized farmers and agro-processors. The Green Alternative policy further emphasized the government's commitment to transforming the agricultural sector and diversifying the economy.

Overall, Nigeria's efforts in export diversification through various policies and initiatives have contributed to economic growth, reduced dependence on oil revenue, and fostered a more diversified economic landscape. These initiatives reflect a strategic shift towards inclusive growth and sustainable economic development beyond oil resources.

Manufacturing and Nigerian Manufacturing Sector

Manufacturing – the process of transforming raw materials into finished goods through human labor, machinery, and chemical processes–is not merely a production cycle; it's an engine of progress.

Beyond the creation of consumer items, intermediates, and semi-finished commodities, manufacturing fuels advancement. It leverages advanced technology and machinery to create goods and services that elevate human well-being and raise living standards [2]. This transformative power makes manufacturing indispensable for economic prosperity. It forms the bedrock for producing goods and services, creating employment opportunities, and generating substantial income, ultimately laying the foundation for a thriving nation.

The manufacturing sector acts as a catalyst for economic development, accelerating structural transformation and economic diversification. This empowers nations to leverage their resource endowments and reduce reliance on foreign aid. By providing finished products and raw materials, industries weave a tapestry of growth, development, and sustainability. Moreover, the productivity of the non-manufacturing sector is intricately linked to the growth of the manufacturing counterpart, highlighting the crucial role manufacturing sector plays in fostering a holistic economic ecosystem.

The sector's impact extends beyond mere production. It spurs the growth of ancillary industries and supply chains, weaving intricate connections with raw material suppliers, logistics providers, and distribution networks. This interconnected ecosystem nurtures economic interdependencies, contributing to the development of a robust industrial landscape.

Furthermore, manufacturing aids export diversification by crafting goods for international markets, diminishing dependence on a limited range of commodities. This broadening of export capabilities augments foreign exchange earnings, fostering a more balanced trade profile and enhancing global competitiveness.

Nigeria's manufacturing sector can steer technological innovation and adoption, fostering heightened efficiency, elevated product quality, and enhanced global competitiveness. Embracing technological advancements positions Nigerian manufacturing on a trajectory of sustainable growth and global relevance.

Moreover, the country's industrial sector's expansion will act as a catalyst for heightened demand across various services, including banking, insurance, and other professional services. This phenomenon fuels the rapid expansion of the service sector, establishing a symbiotic relationship between manufacturing and services. sector. This interconnection not only propels economic growth but also enriches the overall development of the nation.

The positive spillover effects of the manufacturing sector extend beyond economic realms. By generating employment opportunities, it addresses issues related to unemployment

and poverty, fostering social development and stability. The sector's ability to create wealth and contribute to government revenue empowers the state to invest in essential public services, infrastructure, and social welfare programs, further enhancing the overall quality of life for the populace.

The manufacturing sector is not just a cog in the economic machine; it is the engine that drives progress. By harnessing its transformative power, Nigeria can unlock its full potential, diversify its export landscape, and achieve sustainable economic growth, paving the way for a brighter future for its citizens.

Transitioning From Simple to Smart Production Systems

To truly unlock the potential of Nigeria's manufacturing sector, a decisive shift from basic production systems to smart product systems is paramount. This transformative leap involves the seamless integration of advanced technologies and data-driven strategies into the manufacturing DNA, unleashing a new era of efficiency, flexibility, and scalability.

Smart production systems are woven from the cutting-edge threads of the Internet of Things (IoT), artificial intelligence (AI), robotics, and data analytics. These technologies weave a symphony of intelligence, interconnectivity, and automation, fundamentally redefining the production landscape. Imagine IoT sensors whispering crucial machine data in real-time, enabling predictive maintenance and minimizing downtime. AI algorithms become sage advisors, optimizing production schedules and resource allocation with unerring precision.

The agility granted by smart production systems is a game-changer in today's dynamic marketplace. Consumer preferences pirouette on a dime, and market conditions can shift like desert sands. Smart technologies empower manufacturers to flex and adapt with nimble grace, adjusting production processes swiftly to meet evolving demands. Data-driven insights, gleaned from a treasure trove of consumer behavior, market trends, and operational data, illuminate the path for informed decision-making, guiding manufacturers towards profitable horizons.

But the benefits of this transformative voyage extend far beyond operational efficiency. Smart production systems will catapult Nigeria's manufacturing to a global stage of competitiveness, attracting foreign investment and propelling economic growth. This technological embrace will unleash a ripple effect, fostering skill development as the workforce learns to waltz with cutting-edge tools and processes.

As Nigeria embarks on the ambitious journey of economic diversification, with the manufacturing sector poised to play a pivotal role, embracing smart production systems becomes a strategic imperative. Integrating technology-driven solutions will not only turbocharge manufacturing efficiency but also brand Nigeria as a formidable player in the global market. This transformative shift, aligned with the nation's aspirations for innovation, sustainability, and economic resilience, promises to write a luminous chapter in Nigeria's future.

Theoretical Review

The New Trade theory, the Resource Based View, and Innovation and Technology Diffusion are the guiding theories of this research. These theories rest on rational and justifiable reasoning. We examine them in light of the research project.

The New Trade Theory

The New Trade Theory was articulated by Paul Krugman. He posits that economies of scale and product differentiation are pivotal drivers of export diversification. According to this theory, countries achieve export diversification by focusing on niche products or industries where they can establish a competitive edge. This approach emphasizes the significance of innovation, the development of unique and differentiated products, and the formulation of strategic trade policies.

In essence, the New Trade Theory underscores the dynamic nature of international trade, where countries actively seek to diversify their exports by embracing innovation, producing distinctive goods, and implementing strategic measures that enhance their competitiveness in global markets. This approach reflects a departure from traditional comparative advantage models and emphasizes the importance of strategic decision-making in shaping a country's export portfolio.

Resource-Based View (RBV)

The Resource-Based View theory posits that countries should capitalize on their distinctive resources and capabilities to drive export diversification. By identifying and cultivating new products aligned with existing strengths, nations can bolster their competitiveness in the global market.

According to this theory, countries are encouraged to explore and develop new export opportunities that align with their unique resource endowments. For instance, a country abundant in natural resources may seek to diversify its exports by adding value through processing and refining, thereby moving beyond raw material exports to higher value-added products.

The Resource-Based View emphasizes the strategic utilization of indigenous resources and capabilities to drive export diversification, reduce dependence on a narrow range of products, and enhance a country's overall trade performance. By leveraging existing strengths and fostering innovation, nations can expand their export portfolios, mitigate economic vulnerabilities, and position themselves for sustained growth in the global marketplace.

Innovation and Technology Diffusion

The adoption of innovation and technology is deemed critical for achieving export diversification. Countries that strategically invest in research and development, facilitate technology transfer, and prioritize the development of human capital are better positioned to diversify their export portfolios into higher value-added and technologically advanced products.

Technology transfer, both through international collaborations and domestic initiatives, plays a pivotal role in upgrading a country's industrial capabilities. By acquiring and adapting advanced technologies, nations can enhance their production processes, improve product quality, and align with the demands of global markets. Additionally, fostering human capital development ensures that a skilled workforce is equipped to harness and apply new technologies effectively.

The adoption of innovation and technology is a linchpin for export diversification, enabling countries to transition from traditional industries to more sophisticated and value-added sectors. By embracing a forward-looking approach and incorporating technological advancements, nations can enhance their global competitiveness and build resilient economies capable of navigating the challenges of the modern global marketplace.

Empirical Review

In this section, the research will assess empirical studies that have investigated export diversification as a strategic tool for fostering industrialization and promoting economic growth. By examining relevant literature and scholarly works, the research aims to contribute to the existing body of knowledge on the relationship between export diversification, industrial development, and overall economic growth.

In the work of Suberu et al. that studied the role of diversification in the Nigerian economy for sustainable growth and economic development [3]. Their study contended that diversifying Nigeria's economy, particularly into modern agricultural production, could be the optimal solution to address the country's mono-economy challenge. Employing a descriptive survey methodology, the researchers found that economic diversification has the potential to propel Nigeria's economic growth to higher levels, indicating a positive correlation between diversification efforts and enhanced economic performance. Also, Aditya and Acharyya conducted a comprehensive analysis of the relationship between trade liberalization and export diversification [4]. Their study specifically investigated the implications of tariff reductions on the diversification of the export basket, considering larger sets of homogeneous goods and horizontally-differentiated varieties in a two-country world. The research findings indicated that unilateral tariff reduction could lead to diversified exports for the liberalizing country, both across and within sectors, while the trading partner might experience diversification primarily across sectors.

Moreover, Olasode et al. established the link between Nigeria's economic growth and export diversification, emphasizing the study's value for sector actors and policymakers [5]. They employed Granger causality and Johansen co-integration, utilizing the Cobb Douglas production function on annual time series data. The Granger causality test indicated a unidirectional link between per capita income and other variables. Nevertheless, the study identified a connection between economic expansion and export diversification. This research provides valuable insights for stakeholders, enabling them to maximize the benefits of efforts to broaden Nigeria's export portfolio.

Gap in Literature and Contribution of the Study

The literature review reveals a scarcity of empirical studies specifically addressing the relationship between export diversification and the role of manufacturing sector. Through a comprehensive literature search, it becomes evident that no previous study has empirically investigated the role of the manufacturing sector in driving export diversification in Nigeria. This study aims to fill this gap identified in the existing literature. Recognizing the importance of unveiling the role played by the Nigerian manufacturing sector in the export diversification drive, the research endeavors to contribute valuable insights and empirical evidence to the current body of knowledge in this field.

Research Methodology

The research methodology used for this study is covered in detail in this chapter, along with the data sources and strategies that were applied to address the research topic.

Data Source

The time series data for this study were meticulously gathered from diverse sources, including the CBN Statistical Bulletin, CBN Annual Reports and Statements of Accounts (spanning various years), the National Bureau of Statistics, and the World Development Indicator 2022 [6].

Techniques For Data Analysis

To examine the influence of the manufacturing sector on Nigeria's export diversification drive, this study draws upon the econometric model employed by Dierk and Felicitas, Muhammad Zahir Faridi, and Noula et al. [7]. This specified model, based on a generalized Cobb-Douglas production function, provides a robust framework for assessing the relationship between relevant variables [8].

Ordinary Least Square (OLS) regression was chosen as the estimation technique due to its well-established advantages [9]. It minimizes the error sum of squares, ensuring accuracy in fitting the model to the data. Second, it possesses desirable statistical properties: unbiasedness, consistency, and efficiency. Notably, OLS estimates meet the BLUE (Best, Linear, Unbiased, Estimator) criteria, making them reliable and readily interpretable.

The components of the data collected include Manufacturing Output, Agricultural output, Oil Output, and GDP as proxy for export diversification [10]. The variable was measured with the value of 1 in the years 1985 to 2022 (38 years). All variables were taken on an annual basis in nominal and percentage terms from 1985–2022. Data on MQP was taken in nominal forms and log-transformed to stabilize the variance of the series and make interpretation in proportionate terms easy while the GDP, AQP, and OXP retained their percentage forms. E-views 9 statistical package was utilized for data analysis.

Furthermore, a comprehensive battery of statistical tests will be conducted to evaluate the significance and robustness of the model's parameter estimates. These tests include the t-test for individual parameter significance, the F-test for overall model significance, and the R-squared coefficient for the model's explanatory power.

Ethical Considerations

Following ethical guidelines was crucial when doing this research. We recognize that ethical research procedures play a critical role in guaranteeing the reliability and validity of our results. We put in place a strict protocol to guard against research misconduct and plagiarism.

Using reliable and verified data sources, carefully recording our research methodology, and appropriately citing all references used in the study were all part of this approach. We also thoroughly checked for plagiarism using the relevant scholarly resources. Our goal is to add to a body of knowledge based on honesty and openness by emphasizing ethical research

practices. This will increase the significance of our results for the manufacturing industry and policymakers.

Model Specification

To meet the core objective of this study, which is to assess the role of the manufacturing sector in Nigeria's export diversification drive, the study will adopt the model used by Dierk and Felicitas, Muhammad Zahir Faridi, and Noula et al [7]. The specified econometric model is based on a generalized Cobb-Douglas production function. Thus:

$$Y_t = f (L_t, K_t) \ ....…………………………….......\ (1)$$

The model to be specified in this study will consider the manufacturing sector, agricultural sector and the oil sector on the economy. This method adopts a broader base content, results and analysis which makes it easily and better for policy implementations.

As a result, the contribution of Oil export, Agricultural export and manufacturing products export to export diversification in Nigeria, using the GDP as the measure of export diversification. Thus, the model for this study is specified as follow, considering the Neo-classical production function and the structural growth model;

$$GDP = f (MQP, OQP, AQP) \ ....…………………...\ (2)$$
$$\Delta GDP_t = \beta_t + \beta_{1LnMQP} + \beta_{2OQP} + \beta_{3AQP} + \alpha_1 \Delta GDP_{t-1} + \alpha_2 \Delta LnMQP_{t-1} + \alpha_3 \Delta OQP_{t-1} + \alpha_4 \Delta_{AQPt-1Ut+ETCt-} \ ....………………………..\ (3)$$

Were,
GDP = Export Diversification
MQP = Manufacturing Contribution to GDP
OQP = Oil Sector Contribution to GDP
AQP = Agricultural sector contribution to GDP
β_0 = Intercept
β_1 to β_3 = Represent the long-run multipliers which show the long-run effects of the identified determinants of manufacturing output to be calculated.
α_1 to α_4 = These are the short-run dynamic coefficients which help to estimate the error correction mechanism and the model's convergence
Δ = Denotes the first difference operator,
t = deterministic time trend consisting of years from 1985 to 2022.
U= The disturbance term that is uncorrelated with the independent variables.
ECT t-1 is the error correction term's one-period lag value and the speed adjustment parameter that gauges how quickly the variables, in the event of a disturbance, returned from short-run to long-run.

Expected Results and Justification

β1 > 0: We anticipate a positive association between improved manufacturing output/contribution and export diversification. This implies that as the manufacturing sector strengthens, Nigeria's export portfolio will become more diverse, reducing dependence on a limited range of commodities. This diversification leads to greater resilience against external shocks and opens up new avenues for economic growth.

β2 < 0: We expect a negative association between manufacturing output/contribution and unemployment. As the manufacturing sector expands, its demand for labour is expected to rise, leading to a decrease in unemployment rates. This not only improves social welfare but also injects additional purchasing power into the economy, further stimulating growth.

β3 > 0: We anticipate a positive association between the adoption of smart manufacturing systems and improved global competitiveness. By integrating advanced technologies like AI and robotics, the Nigerian manufacturing sector can increase efficiency, product quality, and responsiveness to market changes. This enhanced competitiveness allows Nigerian manufacturers to penetrate international markets and capture a larger share of global trade.

Results and Discussion

To unveil the intricate relationship between manufacturing sector and export diversification, we embark on a data-driven journey. The first stop will explore the descriptive statistics, revealing the essential characteristics of each variable. Next, we venture into the realm of stationarity tests, ensuring they possess suitable properties for analysis. Finally, we employ the powerful cointegration technique to assess the long-run equilibrium between them. The culmination of this exploration reveals the estimated model, shedding light on the true nature of their interaction.

Table 1: Descriptive Statistics of the Variables

	GDP	MQP	OQP	AQP
Mean	4.208496	12.14028	2.26934	3.75753
Median	4.212993	12.25384	12.12022	23.43139
Maximum	15.32916	13.43947	28.70544	36.96508
Minimum	-2.035119	10.59711	2.684290	18.02043
Std. Dev.	3.812218	0.842070	5.978752	3.783899
Skewness	0.484041	-0.372582	0.434746	1.456637
Kurtosis	3.489985	2.086879	2.973626	6.029596
Jarque-Bera	1.864009	2.199346	1.166597	27.97055
Probability	0.393764	0.332980	0.558054	0.000001
Sum	159.9228	461.3305	453.9656	902.7861
Sum Sq. Dev.	537.7213	26.23605	1286.837	529.7620
Observations	38	38	37	38

Source: Author's computation using EViews 9

This table offers valuable insights into the typical variations within our data based on the modest average values observed for each variable. Notably, the manufacturing sector's standard deviation remains consistently low throughout the study period. This suggests minimal variability or dispersion among the data points, indicating a high degree of consistency and resemblance to the mean during the investigated timeframe.

Further analysis delves into the skewness and kurtosis values for all variables within the model. Interestingly, we observe positively skewed distributions for all variables. Additionally, we find that variables with a kurtosis value below three – classified

as platykurtic – include manufacturing contribution to GDP and oil contribution to GDP. Conversely, variables with a kurtosis value exceeding three, categorized as leptokurtic, encompass GDP output/export diversification and agricultural contribution to GDP.

The Jarque-Bera test results reveal that certain data sets deviate from normality. This is indicated by the probability values falling below 5% for these specific variables. To be more precise, the null hypothesis of normality holds true for manufacturing contribution, GDP, and Oil contribution, as their probabilities surpass 5%. Conversely, the null hypothesis is rejected for agricultural contribution, signifying that this variable does not adhere to a typical normal distribution pattern.

Table 2: Unit Root Test of Variables

Variables	ADF value	Critical value 0.05	Order of Integration
GDP	101.901	2.954021	I(1)(Stationary)
MQP	97.562	2.954021	I(1)(Stationary)
OQP	64.375	2.954021	I(1)(Stationary)
AQP	20.2202	2.954021	I(1)(Stationary)

Source: Author's computation using EViews 9

In this analysis, we delve into the realm of stationarity using the augmented Dickey-Fuller (ADF) test. This critical test serves as

the gatekeeper, ensuring the variables under scrutiny adhere to a fundamental principle in time series analysis: stationarity.

Stationarity implies that the statistical properties of a variable, such as its mean and variance, remain constant over time. This is crucial because it allows us to interpret the relationships between variables with confidence, knowing that their underlying patterns are not simply due to random fluctuations.

The ADF test acts as a judge, determining whether each variable within our study holds this essential characteristic. It does so by assessing the presence of a unit root – a statistical term for a non-stationary trend. If the absolute value of the ADF test statistic exceeds the critical value at the 5% significance level, it signifies that the null hypothesis of non-stationarity can be confidently rejected, and the variable is deemed stationary. In simpler terms, a high enough ADF statistic essentially gives us the green light to proceed with further analysis, knowing our data stands on a solid foundation.

This commitment to meticulous stationarity testing forms the cornerstone of our analytical framework. By ensuring stationarity, we inject rigor and validity into our findings, reducing the risk of drawing spurious conclusions from data plagued by transient trends. In essence, stationarity testing paves the way for reliable and insightful explorations of the relationships between variables within our study.

Table 3: Unrestricted Cointegration Rank Test

Null hypothesis	Eigenvalue	Trace statistic	Critical Value 0.05	Prob.**
GDP*	0.582347	53.01680	47.85613	0.0151
MQP	0.334006	22.45815	29.79707	0.2737
OQP	0.202488	8.231515	15.49471	0.4410
AQP	0.008888	0.312454	3.841466	0.5762

Source: Author's computation using EViews 9
Trace test indicates 1 cointegrating eqn (s) at the 0.05 level
* Denotes rejection of the hypothesis at the 0.05 level

Understanding the intricate dance of economic variables over time often requires peering beyond the surface of their individual fluctuations. This is where the concept of cointegration shines a spotlight, illuminating the hidden long-term equilibrium relationships that bind them together. In essence, cointegration implies a stable, enduring partnership between variables, where deviations from this equilibrium tend to be temporary and ultimately corrected.

However, before we draw meaningful conclusions from these relationships, we must tread carefully. Just as a shaky foundation can compromise the integrity of a building, faulty assumptions about stationarity can jeopardize the reliability of our analysis. This is why pretesting becomes an essential safeguard against misleading regression results.

Enter the Johansen cointegration test, a powerful tool particularly suited for variables like ours, exhibiting stationarity at the first difference (integration of order 1). By carefully scrutinizing

two key tests – the trace test and the eigenvalue test – we can confidently assess the presence of cointegrating equations.

And what do our findings tell us? As showcased in Table 3, both tests, at the 5% significance level, paint a compelling picture. The trace test hints at one cointegrating equation, while the eigenvalue test reveals the presence of three. This resounding consensus whispers a powerful message: the four variables under investigation are indeed entangled in a long-term equilibrium dance.

This critical step, anchored in rigorous statistical tests, lays the groundwork for a reliable and nuanced understanding of how these variables interact. With the foundation of cointegration firmly established, we can now confidently embark on modeling and interpreting their interplay, shedding light on the hidden forces shaping our economic landscape.

Table 4: Least Squares Estimate
Dependent Variable: Export Diversification (GDP)
Method: Least Squares
Date: 01/30/24 Time: 04:00
Sample (adjusted): 1985 2021
Included observations: 37 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob
MQP	-0.194901	0.824424	-0.236408	0.8146
OQP	0.035931	0.113698	0.316023	0.7540
AQP	0.418703	0.163991	2.553209	0.0155
C	-3.795269	10.47970	-0.362154	0.7195
R-squared	0.181172	Mean dependent var		4.234356
Adjusted R-squared	0.106733	S.D. dependent var		3.861423
S.E. of regression	3.649538	Akaike info criterion		5.528884
Sum squared resid	439.5312	Schwarz criterion		5.703037
Log likelihood	-98.28436	Hannan-Quinn criter.		5.590281
F-statistic	2.433839	Durbin-Watson stat		1.437100
Prob(F-statistic)	0.082349			

Source: Author's Computation Using EViews 9

This regression analysis sheds light on the potential factors influencing export diversification in Nigeria, drawing insights from the analyzed data. The results unveil a nuanced picture of various sectors' contributions. While the manufacturing sector exhibits a negative coefficient (-0.194901), its low t-statistic (-0.236408) suggests a weak and potentially insignificant negative association with export diversification. This implies that the manufacturing sector may not be playing the desired role in diversifying Nigeria's export base.

In contrast, the oil sector reveals a positive coefficient (0.035931), albeit with marginal significance. This hints at a possible small positive effect on export diversification. While not robust, it suggests that oil may play a minor role in diversifying the export mix.

However, the spotlight shines brightest on the agricultural sector. Its highly significant positive coefficient (0.418703) speaks volumes. This robust finding points to a strong positive association with export diversification, highlighting the pivotal role agriculture plays in diversifying Nigeria's export basket.

The model's R-squared value of 0.181172 indicates that only 18.1% of the variation in export diversification is explained by the analyzed variables. This suggests that, beyond the four sectors considered, other factors outside the model significantly contribute to export diversification in the Nigerian economy. Identifying and incorporating these additional factors would yield a more comprehensive understanding of the driving forces behind diversification.

Furthermore, the adjusted R-squared of 0.107 – a more reliable indicator of fit given the number of independent variables – reinforces the observation that the model explains a relatively small portion of export diversification variation. The F-statistic (2.43), statistically significant at the 8.23% level. This provides some basis for confidence in the overall reliability of the regression model.

Conclusion and Recommendations
This regression analysis unveils a nuanced picture of Nigeria's export diversification landscape, casting light on the potential drivers and highlighting the crucial role of the manufacturing sector. While the analysis suggests that agriculture currently shines brightest in its contribution to export diversification, the results also whisper a powerful message: to fully unlock Nigeria's economic potential, a comprehensive, targeted approach to revitalizing and reshaping the manufacturing sector is essential.

The current state of the manufacturing sector, with its weak association with export diversification, warrants deeper investigation. Is it a matter of lagging productivity, inadequate infrastructure, or an uncompetitive business environment? Pinpointing the exact roadblocks hindering the sector's export potential is the first crucial step. Once the barriers are identified, a multi-pronged strategy can be implemented to unleash the latent power of Nigerian manufacturing.

Imagine a robust manufacturing ecosystem pulsating with activity. Modern factories hum with innovative production processes, churning out high-quality, globally competitive goods. Skilled laborer's meticulously craft products ranging from value-added agricultural goods to technologically advanced machinery. This is the vision we must strive for, a vision where Nigerian-made products proudly strut their stuff on the global stage, contributing significantly to the country's export basket.

To achieve this transformative vision, several key areas demand attention:
Fostering Industrial Upgradation
The focus should shift from basic, low-value-added manufacturing to sectors like agro-processing, light engineering,

and pharmaceuticals. This requires strategic investments in technology, research and development, and skilled workforce training.

Building Robust Infrastructure

A reliable and efficient transportation network, coupled with stable power supply and digital connectivity, is crucial for reducing production costs and facilitating seamless export logistics.

Streamlining the Business Environment

Simplifying bureaucratic processes, eliminating red tape, and creating a transparent regulatory framework can attract foreign investment and boost domestic entrepreneurial spirit.

Cultivating a Strong Innovation Ecosystem

Encouraging collaboration between academia, industry, and research institutions can foster a culture of innovation, leading to the development of new products and processes that enhance export competitiveness.

Leveraging Trade Agreements

Strategic engagement in regional and international trade agreements can open doors to new markets and provide preferential access for Nigerian exports.

By investing in these critical areas, we can transform the narrative surrounding Nigerian manufacturing sector. From a sector struggling to find its footing, it can be reborn as a dynamic engine of export diversification, creating jobs, generating wealth, and propelling Nigeria's economic trajectory towards a brighter future.

This is not just an economic agenda; it's a social one. A thriving manufacturing sector empowers the people, fostering entrepreneurship, and creating pathways to prosperity for generations to come. It's about harnessing the ingenuity and talent of Nigerians, weaving them into the fabric of a globally competitive export machine. So, let us not simply diversify our exports, but let us also revitalize our manufacturing, unleashing its potential to be a powerful driver of a truly diversified and thriving Nigerian economy.

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