International Journal of Development and Economic Sustainability
Vol.12, No.3, pp.1-25, 2024
Print ISSN: 2053-2199 (Print),
Online ISSN: 2053-2202(Online)
Website: https://www.eajournals.org/
Publication of the European Centre for Research Training and Development -UK

Manufacturing Exports and Employment Nexus in Nigeria

Owan, Jacob Ogar, Ph.D
Department of Economics, University of Calabar, Calabar.

Owan, John Odey
Department of Economics, Ebonyi State University, Abakaliki.

Etukudo, Michael, Ph.D
Department of Economics, University of Calabar, Calabar.

doi: https://doi.org/10.37745/ijdes.13/vol12n3125 Published June 01, 2024

Citation: Jacob Ogar Owan, John Odey Owan, and Michael Etukudo (2024) Manufacturing Exports and Employment Nexus in Nigeria, *International Journal of Development and Economic Sustainability*, Vol.12, No.3, pp.1-25

ABSTRACT: *Nigeria has lower manufacturing employment than other industries for several reasons, including it share to Gross domestic product. Nigeria's manufacturing sector contributes less than 10 percent of the nation's GDP. This suggests that the sector's overall economic production is weak, which may restrict its ability to provide job opportunities to the teeming populace. This study investigates the impact of manufacturing output on employment in Nigeria. The Autoregressive Distributive Lag (ARDL) estimation technique was used to establish the long run relationship among the variables. It was revealed that long run relationship exists among the variables in the estimated model. The results of the Error Correction Mechanism (ECM) within the framework of the ARDL shows that the development of the manufacturing sector is one of the key strategies for the creation of employment opportunities in Nigeria. The study recommends; the development and diversification of the manufacturing sector as one of its top long-term policy strategies for the creation of employment for Nigerians. It also suggests that policies aimed at attracting foreign investment in this sector could positively impact on employment generation. This can be accomplished by providing incentives to the operators of the manufacturing sector, such as import waivers on essential imported inputs, providing and guaranteeing large commercial trading businesses to enter the manufacturing of their products through licensing, facilitating and acting as surety in franchise agreements with foreign manufacturers, and any other incentive to help lower the manufacturing sector's cost of production. Hence, the government must prioritize the development of the manufacturing sector by providing necessary support and incentives to attract more investors and increase local production, which will lead to job creation and economic growth for Nigerians.*

KEY WORDS: manufacturing exports, employment, ARDL, Nigeria.

INTRODUCTION

The benefits of employment include raising the standard of life for the working population, reducing poverty and social unrest, and boosting the economic growth trajectory of a nation (Odey & Nwafor, 2022; Dahlstrom *et al*., 2012; Inekwe, 2013). Classical economists held that as long as workers were flexible with their pay demands, free markets would automatically produce full employment, meaning that everyone who wanted a job would get one. This concept was challenged by British economist John Maynard Keynes who spearheaded a shift in how people saw an economy's ability to create employment (Mitchell & Muysken, 2008). A shift in the thinking that an economy cannot automatically create jobs gives credence to the importance of the development of many sectors of an economy, including the manufacturing sector, to help the economy generate employment for the populace.

Furthermore, a country can only eradicate or lessen extreme poverty if it creates millions of new jobs, which could be done through the development of the manufacturing sector on yearly basis. The development of the manufacturing sector could also contribute significantly towards providing a fillip to the exports of Nigeria, thereby boosting its overall economic growth. According to Ogbu (2012), a strong manufacturing sector is linked to technological diffusion, the creation of high-value products, increased economic linkages, a broader employment base, and growing incomes. This is because an increase in manufacturing output results in a wider range of jobs, which creates more opportunities for people to gain technical and vocational skills. However, the situation is different in Nigeria, where the manufacturing sector's contribution to employment could have been much higher due to the under-utilization of capacity in the country's manufacturing sector. This low contribution to employment indicates the challenges posed by Nigeria's manufacturing sector, such as lack of access to capital, inadequate infrastructure, limited access to technology and raw materials, and the need for stronger policy support.

The Nigerian manufacturing sector is supposed to be a huge creator of employment opportunities. However, for over four decades, the manufacturing employment rate to total employment has stayed below the 14 percent benchmark. This indicates that the sector may not be creating jobs corresponding to its potential in job creation. Moreover, manufacturing firms in Nigeria are still grappling with low consumer demand, operational hurdles, epileptic power supply, difficulties in procuring production inputs consistently, inconsistencies in legislation and policy, a difficult business environment, foreign exchange constraints, inaccessible ports, and a lack of finance (Udah, 2010). All of these have resulted in limiting the sector growth, which is potentially underutilized, especially in its capacity to generate employment opportunities for the teeming populace.

While the manufacturing sector should have taken the lead in creating jobs in the country, it is the third-largest behind agriculture and trade in terms of employment (Owan *et al*, 2024). However, the sector's weak infrastructure has been a long-standing issue in Nigeria, contributing to high production costs. This has hindered the ability of the manufacturing sector to contribute significantly to job creation, with its share of employment remaining static at less than 14 per cent. A comparison of data on manufacturing sector development and employment showed that from 1986 to 1990, manufacturing output recorded an increase of 11.52 per cent, cement output recorded a positive change of 68.10 per cent, food, beverage and tobacco recorded a positive change of 4.37 per cent; textile, apparel and footwear recorded a change increase of 4.37 per cent, wood and wood product recorded a positive change of 4.37 per cent while manufacturing employment rate recorded a marginal increase of 0.015 per cent. From 1991 to 1995, manufacturing output recorded an increase of 10.77 per cent, cement recorded a decrease of 8.11 per cent, food, beverage and tobacco recorded an increase of 14.20 per cent, textile, apparel and footwear recorded an increase of 14.20 per cent, wood and wood product recorded an increase of 14.20 per cent while manufacturing employment rate recorded a decrease of 0.73 per cent from previous five years period. Hence, the main objective of the study was to examine the nexus between manufacturing exports and employment in Nigeria.

REVIEW OF RELATED LITERATURE

Conceptual Review

Concept of Employment

Employment is a situation where there is a contract or agreement between an employer and an employee for work performance. In exchange, the worker receives a salary or an hourly wage. There are four employment situations: full-time, part-time, seasonal and temporary. In full-time employment, workers work 40 hours each week and receive perks like health insurance, dental coverage, paid time off, and vacation. In addition, employers will often have workers sign an employment contract outlining their roles and obligations, as well as any benefits, termination procedures, notice requirements, and governing laws. In part-time employment, workers typically work fewer than 40 hours per week and may not be eligible for a salary. Seasonal employment sees workers as those brought on for a limited time to fill a specific void in an organization. As a rule, they assist in periods of high labour volume or seasonal work. At the same time, temporary employment is where the employment contract states that the worker will last for a specified amount, typically between one and six months. They could also be brought in for a particular project and then let go once that work is done (Bodie, 2013; Hussmanns, 2004). This study made use of manufacturing employment.

Concept of Manufacturing Export

Manufacturing is the process by which raw materials or pieces are transformed into completed products by applying various techniques such as manual labour, mechanical devices, and chemical reactions. Exports are goods and services that are produced in one country and sold to buyers in another. Exports, along with imports, make up international trade. Instead of confining itself within its geographical borders, countries often intentionally seek external markets around the world for commerce, allowing greater revenue and transactional opportunities. Hence, manufacturing exports are those goods that are manufactured and exported to other parts of world in order to earn foreign exchange.

Manufacturing sector and the Economic Recovery and Growth Plan (ERGP)

In 2015, manufacturing contributed 9.5% of Nigeria's GDP. Over the period from 2010-2015, the industry expanded at a compound annual rate of 13.3%, nearly three times the GDP expansion during the same period, which was 4.8%. The Economic Recovery Growth Plan (ERGP) was aimed to improve this performance and double manufacturing's share of GDP, primarily through the development of Special Economic Zones (SEZs) to lure manufacturing away from economies where the labour cost advantage is declining and reinvigorate local industries that have been harmed by, for example, the influx and dumping of goods in Nigeria. Agro-processing, which includes the production of food, beverages, and tobacco (45% of the total in 2015); light manufacturing, which includes the production of textiles and wood products (31% of the total); and resource processing, which includes the production of cement and basic metals, are the three largest sub-sectors of the manufacturing industry (18 per cent) (Ministry of Budget and National Planning, 2017).

From 2010-2015, all of these industries grew steadily. Micro, small, and medium-sized manufacturing businesses (MSMEs) have historically played a crucial role in the economy by providing needed employment. In 2010, 11.0% of the Nigerian workforce was involved in manufacturing, the majority in agro-processing and textiles/apparel. As the global economy entered a period of contraction in 2016, the industry had sharp quarterly declines of 7% in Q1 and 3% in Q2. This uncertainty reflects Nigeria's reliance on foreign exchange to import intermediate goods and raw materials. It underscores the need to diversify and support manufacturing to promote growth and employment and limit the industry's sensitivity to external shocks. Accomplishing these aims will also aid in the growth and development of micro, small, and medium enterprises. The NIRP, a cornerstone of Nigeria's industrial policy, was the foundation upon which the ERGP was built. Access to credit and financial services, infrastructure, and power supply that cause firms to rely on generators, increasing input prices and decreasing overall competitiveness and profitability are all issues that the NIRP seeks to address (Owan, 2023).

Resultant Goals of Policy Increase manufacturing's share of GDP from its 2016 low of -7.84% to 10.61% in 2020, or an annualized rate of 8.48%. Develop directional connections between

industrial sectors and other economic areas, such as the mining, farming, and oil and gas industries. Second, boosting domestic inputs helps save money on imports of raw materials and machinery and generates new employment opportunities. Third, improve the ability of manufactured items to bring in foreign currency to boost foreign exchange revenues. Fourth, boosting research and development, technology, and innovation will give you the edge you need to break into the global market. As a result, it achieves an annual increase of 8 per cent in the manufacturing employment share till 2020.

ERGP strategies on manufacturing sector development

Move quickly to implement the National Industrial Revolution Plan, NIRP, emphasizing major centres of agriculture and industry. Investment incentives for regional industry centres to encourage the growth of industrial cities, parks, and clusters, especially in areas with access to ports and transportation hubs, local governments should examine the financial and regulatory advantages they now offer. Export processing zones can be revitalized by evaluating local fiscal and regulatory incentives. Tariff exemptions and reductions for agricultural machinery imports should be rationalized. Build SEZs with specialized facilities to boost regional output. Acquire appropriate real estate for SEZs; Ensure SEZs are connected to power and water systems; Aid SEZs in acquiring and transferring technology by making available the results of local research institutes' efforts; Make sure that essential ICT infrastructure is connected to the rest of the world and that people can easily use it. Make it easier to get a loan Boost the Bank of Industry's resources so it can provide low-interest loans to industrial companies. Reevaluate the structure of the CBN's N250 billion MSME fund and introduce enabling efforts to boost on-lending to expand its reach. Using the Women's Empowerment Fund and the Government Enterprise and Empowerment Programme (GEEP), give women access to microloans. Support domestic production by buying locally made goods and using local suppliers for components (with targets for MSME participation). Support the Nigerian-made movement by creating and disseminating product quality standards (Ministry of Budget and National Planning, 2017; Oti *et al.,* 2016).

Foster creativity and businesses that rely on cutting-edge technology: Offer monetary incentives to encourage personal R&D spending. Streamline processes for enforcing intellectual property laws. It is important to raise awareness of scientific parks and innovation centres inside and outside educational institutions. Foster the growth of the private equity and venture capital industry by providing a favourable fiscal and regulatory environment. Put into motion the YouWin-Connect! Programme to inspire young people to take risks and innovate. Prompt the growth of resource-processing businesses (like the cement industry, for instance): Foster the interconnection of resource-processing businesses with energy and transportation networks. Promote investment by providing tax incentives (such as accelerated depreciation on equipment).

Job creation and empowerment in ERGP

The unemployment rate has increased steadily from 6.4% in 2014 to 10.4% in 2015 to 13.9% in 2016. (Q3). Nigeria's youth population (45 per cent of the total) is responsible for the vast majority of the country's unemployed and underemployed (an estimated 17.6 million; 49.7 per cent in Q32016), a problem that will only worsen as the country's population grows. Young people will be given first dibs on all employment-generating projects. To guarantee that the capacity-building and skills-acquisition interventions are directed at businesses dominated by young people, such as ICT, creative industries, and services, the implementing agencies will work closely with the Ministry of Sports and Youth Development (Ministry of Budget and National Planning, 2017).

Young people are encouraged to enter other labor-intensive industries like agriculture and construction. Jobs have been lost, and job creation has slowed as the economy has slowed, both of which have not been fast enough to keep up with the remarkable expansion in the number of people entering the labour force. The government is quite worried about this trend, so creating new jobs was a priority for the ERGP. The ERGP seeks to achieve this goal by expanding labor-intensive industries (including agriculture, manufacturing, housing, and construction), maintaining and expanding existing public works programs, and promoting private sector engagement.

As a result, infrastructures in areas that have the potential to increase employment opportunities, especially for locals, were targeted for development. This will help small and medium-sized enterprises (SMEs) reach their full employment potential and continue the recently launched N-Power activities. The government plans to boost home ownership and provide direct employment opportunities for artists and craftspeople by implementing a social housing scheme. Together, the government and the private sector will implement this initiative. These efforts will be based on three pillars: Federal Government job creation, private sector employment creation in both the informal and formal sectors, and programs to improve participants' skill sets.

The federal government would create direct employment by prioritizing hiring new employees at the Federal Inland Revenue Service, the Nigerian Police, and the Economic and Financial Crimes Commission, all of whose work is essential to the success of the ERGP. Over the last six years, the N-Power program has hire up to half a million recent graduates to serve as teachers, farm extension workers, and public health professionals. These initiatives were be bolstered by assistance from state and local governments. The private sector will work closely with the government to prioritize economically important industries with strong job creation potential.

Due to high levels of domestic demand, the possibility of import substitution, and opportunities deriving from enhanced yields and raw material processing, agribusiness and agro-allied industries will provide ample employment in the formal and informal sectors. Since large-scale public works programs are planned to address infrastructure and housing shortages, the construction industry is a top priority. Information and communication technology (ICT) and digital technology can

increase employment, transform labour productivity, and establish new economic sectors. Providing access to up-to-date information about job openings is a vital part of the policy framework. Urban and rural infrastructure to support productive activities and develop national value chains among farmers, SMEs, and large enterprises are all part of the policies meant to speed up the rate of job creation.

The federal government, in conjunction with the state governments, is constructing Special Economic Zones (SEZs) to stimulate manufacturing (including agro-processing), as well as clusters and hubs (for example, for agro-processing and ICT). Skills delivery and certification, particularly for artisans, would fall under the purview of relevant industry associations, which the government has given the initiative in response to rising demand. The policy aims to incorporate 21st-century skills into the school curriculum. Up to 65,000 young people will receive training from the Federal Government and industry-leading ICT enterprises in computer hardware and software. Resultant Goals of Policy By producing approximately 15 million direct jobs between 2017 and 2020, or an average of 3.75 million jobs per year, we can bring the unemployment rate down from 13.9% in Q3 2016 to 11.23% in 2020. Help the private sector reach its full employment potential, supplementing the government's efforts to create jobs. Increase workforce viability by investing in skill development initiatives (Ministry of Budget and National Planning, 2017).

Theoretical Framework

This study is anchored on the Keynesian theory of employment. The classical economists believed that Say's Law and wage-price flexibility guarantee full employment in a free enterprise capitalist system. Keynes attacked this classical theory during the 1930s Great Depression. He argued that full employment is a rare occurrence and temporary. His theory was "general" or applicable anytime. He called his seminal book “The General Theory of Employment, Interest, and Money. (1936). Keynes' idea is "general." This book criticized classical macroeconomics and offered a "new" income and employment theory (Keynes, 1937).

Keynes believed that effective demand for goods and services determined a nation's employment rate. Weak or ineffective demand causes unemployment. Thus, national income/output affects employment. National output increases (decreases) employment. Thus, the Keynesian job theory is the "effective demand" income theory. Effective demand underpins Keynes' employment theory. Thus, real demand determines capitalist employment. Thus, efficient demand is needed to reduce unemployment. Keynes defined "effective demand" as the real desire for goods and services in an economy at different employment levels. Demand for goods and services include spending and investment. Effective demand in a two-sector economy is spending plus investment. People create a variety of goods, including consumption and investment goods, to meet this demand (Keynes, 1937).

Keynesian employment theory has some limitations, which only solves some types of unemployment, and only tackles cyclical unemployment without given consideration to frictional, technological, and long-term unemployment in emerging nations like Nigeria. Despite these limitations of the Keynesian employment theory, it provides an explanation into the factors that may help in the creation of employment opportunities in an economy which cannot be ignored. It is therefore, relevant to this study in helping to point to the fact that manufacturing output, specifically manufacturing export, which is a foreign demand of goods produced local may be a driver of employment in an exporting economy (Appelt, 2016; Habanabakize & Muzindutsi, 2018).

Empirical Studies

Dikilitas *et al.* (2022) looked at how exports impacted the employment rate of women in Turkish manufacturing enterprises from 2003 to 2015. The study created treatment models and employ PSM and difference-in-difference methods to account for potentials. The study found that whenever manufacturing companies begin exporting, the employment rate for women rises. Furthermore, companies in low and medium technology-intensive, low-wage, and labor-intensive products exporting sectors have seen increased female-employment rates.

By estimating a static and dynamic panel model with information from the World Input-Output Dataset and the Socio-Economic Accounts, Dine and Chalil (2021) analyzed the effects of backward linkages (exports of foreign value added) and exports of domestic value added on labour productivity and employment at the Japanese industrial level. The study found that across all Japanese industries, the domestic content of trade is a major factor in productivity and employment growth. At the same time, backward connections cause productivity to fall and facilitate the displacement of workers. Based on the results of sector analysis, it is clear that the manufacturing sector's backward links and domestic value-added exports gain the most, while the service sector's productivity declines as the number of backward linkages grows.

Using a time-series analysis, Molepo (2021) examined the long-run and short-run dynamic relationships between total employment, export output, and import output from 1990 to 2018. The study uses secondary data from the Citrus Growers Association of South Africa for total employment, while export and import output was obtained from the Global Trade Atlas. The study applied the multivariate cointegration to identify any causal relationships between the variables in question. Due to its association dependence on the log-likelihood ratio, the Akaike Information Criterion (AIC) was selected as the optimal lag selection criterion. The third latency was chosen for the analysis as a whole. The cointegration test and the Vector Error Correction Model indicate a positive long-run effect between total employment and export output, whereas import output is negatively associated with total employment. The results of the Granger causality test indicate that, in the long run, there are bidirectional causality effects between export output and total

employment but none between import output and total employment. In the South African citrus industry, export outputs positively affect employment, while import outputs have a negative effect. Yilmaz (2021) used panel data estimation techniques to study the effect of export on employment in 28 OECD (The Organization for Economic Co-operation and Development) countries. These techniques revealed the effect of different properties between units, increase the degree of freedom, and provide more efficient estimators by combining cross-sectional data. The study found that for 28 OECD nations, exports substantially negatively impact employment. Employment is affected by macroeconomic variables, including GDP growth, trade openness, and exports. Furthermore, exports negatively influence employment in the current era, in contrast to the positive effects of economic growth, trade openness, and prior employment levels. Based on the findings, export may impact the job market. In contrast to conventional theories of international commerce, which hold that exports boost employment, this effect is conditional on political and economic considerations, particularly national differences in the organization of their production sectors.

Villani and Fana (2020) analyzed European production linkages in four main industrial activities. The paper addresses two goals. First, it maps Europe's effective integration and employment in exporting intermediate inputs and end goods. Second, it estimates how the current economic crisis may affect European manufacturing jobs. Vertically integrated labour accounts for direct and indirect employment in final goods manufacturing. To map the supply chain and distinguish between exporting intermediate inputs and final items, Multi-Regional Input-Output tables were used to estimate the employment function. The study's findings revealed that international trade accounts for most of the final output employment.

Qian *et al.* (2020) examined the consequences of developing nations' increased exports to China on their domestic labour markets from 1992 to 2018. They used comprehensive export and employment data to estimate shifts in manufacturing employment, using exports to other developing nations as proxies for export exposure. The study found that developing nations that were exporters benefited greatly from increased global trade exposure to China. The estimates revealed that between 1992 and 2018, the trade exposure added nearly 1.5 million employments, significantly boosting manufacturing in emerging nations. In addition, the empirical study demonstrates that trade has been employment-stabilizing throughout the sampled nations.

Ali and Dadush (2019) examined manufacturing employment across the world using econometric trend analysis covering 2001 to 2018. The study found that manufacturing employment growth provided only about 10 percent of the new jobs needed to compensate for losses in agriculture and the growth of the active population. Most of the net job creation in manufacturing was in China, while most countries, both developing and developed, saw manufacturing employment decline as a share of total employment and several, including all or nearly all advanced countries, saw an absolute decline. The remarkable economic transformation in China has brought shifts in employment within the country, which was far larger. In fact, a different order of magnitude, than

in other countries, entails the redeployment towards manufacturing of tens of millions of workers, mainly drawn from agriculture. In the sample of the countries they examined, including the United States, the increase in labor productivity in manufactures, due to automation and improved methods, were a far more important cause of employment decline than shifts in the manufacturing trade balance.

Mohler *et al*. (2018) investigated the role of manufactured exports on unemployment reduction in Switzerland using a panel data covering 1991 to 2008 and thirty-three thousand persons employed in manufacturing firms. A panel regression analysis was used to estimate the data and the study found no strong evidence for a positive relationship between manufactured export and (low-skilled) individuals' likelihood of becoming unemployed.

Abbey *et al.* (2017) investigated the effect of small and medium scale manufacturing firms in the creation of employment in Ghana using a firm level survey of micro, small and medium Enterprises (MSMEs) between 2013 and 2015. The study used panel regression analysis and found that small and medium scale manufacturing have a positive impact on employment generation in Ghana and recommended that manufacturing exports should be considered for its role in job creation and policy should be formulated to protect and promote them. Tax incentive should be given to small and medium scale manufacturers in order to enable them employ more people.

Nguyen (2015) looked at the impact of increased exports on job creation in the context of Vietnam's market-oriented economic reforms, which have been in place since the early 1990s. It does an empirical analysis utilizing a conventional inter-industry input-output framework to analyze the impact of manufacturing exports to job creation in the reform era, using Input-Output data for Vietnam in 2000 and 2007. Manufacturing exports created roughly seven million new employments between 2000 and 2007 as a result of direct benefits on the manufacturing sector as well as spillover effects across sectors in the entire economy, according to the data. It was found that export-oriented manufacturing, for example, accounted for more than half of the entire increase in manufacturing employment from 2000 to 2007.

Over the last four decades, manufacturing employment in Australia has been steadily diminishing. Import rivalry, particularly from low-wage countries, is commonly believed to be a major driver of this trend. Low-wage countries have raised their collective share of Australia's manufactured goods imports dramatically. Using panel data from 1969 to 2012 and employing the panel regression analysis, Tuhin, (2015) found that trade has a significant impact on employment, although the intensity of the impact varies by industry and has lessened over time. The findings also showed a statistically significant negative relationship between manufactured imports and manufacturing employment.

Since the Asian financial crisis, Indonesia has struggled to create jobs, particularly in labor-intensive industries. Aswicahyono *et al.* (2011) based on an analysis of input–output data from 1995 to 2005, evaluates the impact of exports on jobs using trend analysis. Because of slower growth in manufacturing exports and a shift away from light industry, it was found that fewer employment was created through exports in manufacturing industries in 2005 than before the crisis. Because of the endemic elastic supply of unskilled workers, the slowdown could be costly. However, employment in the services sector increased, partially as a result of indirect ties to the key export industries. This could be aided by increased domestic and international service competition. The biggest roadblocks to job development through exports are supply-side issues, particularly those connected to weak infrastructure, an uncertain investment climate, and labor rules.

Kang and Whang (2022) used firm-level data from the Korean manufacturing sector to quantify the impact of both extensive and intensive margins of exporting on employment, highlighting the role of both R&D intensity at the firm level and exports to foreign affiliates. Also separately examined are the employment effects of exporting by employment contract status, i.e., regular or non-regular employees. The results of the study indicate that a firm's entry into export markets has a positive impact on its employment of regular workers and the positive effect is visible among firms with the highest R&D intensity. Concerning the intensive margin, the findings indicate that exports to non-affiliates negatively affect regular employment. This negative impact, associated with the intensive margin, is evident in firms belonging to the group with the lowest R&D intensity, consistent with the findings for the extensive margin. The heterogeneous effects of exports based on both firm-level R&D intensity and exports to foreign affiliates appear to be related to the unpredictability caused by the volatility of overseas sales.

Using precise firm-level data for industry totals and input-output structures, Michel and Hambé (2022) documented the segmentation of Belgian manufacturing into export-oriented and domestically-oriented enterprises in input-output tables and employment data. According to the export-heterogeneous figures generated, manufactured exports in Belgium are responsible for maintaining 585,000 jobs, or 13% of the country's total employment. However, when using standard tables, this is underestimated by 4%. Additionally, the study concluded that export contributors and beneficiaries are for specific groupings of companies rather than for entire industries.

METHODOLOGY

Research design

The study investigated manufacturing exports and employment in Nigeria. Therefore, an ex post facto (after the fact) research design was adopted to achieve the study's objective. This type of research design enables the study to evaluate the impact of the independent variables on the

corresponding dependent variable by collecting relevant data on the variables and determining the cause-and-effect relationships among the relevant variables.

In particular, the study adopted both descriptive and econometric tools in its analysis and estimation. The descriptive analysis employed descriptive tools such as simple tables, graphs, percentages, averages, etcetera, to analyze the trend performance of the variables, while econometric techniques, on the other hand, the ARDL estimation techniques in estimating the relevant equation under the framework of multiple regression modelling and estimation.

Model specification

This model is anchored on the Keynesian theory of employment. Keynes believed that effective demand for goods and services determined a nation's employment rate. Weak or ineffective demand causes unemployment. The equation in the model captured the impact of manufacturing exports on employment and the key dependent variable is manufacturing employment and the key independent variables are manufacturing exports, total investment, real GDP growth, human capital, credit to private sector and infrastructure. The manufacturing export-employment nexus equation is thus specified as:

$$MANEMP = f(MANEX, INV, RGDPGR, HUC, CPS, INFRA) \quad 3.1$$

Equation (3.1) is structurally specified as follows:

$$MANEMP = \beta_0 + \beta_1 MANEX + \beta_2 INV + \beta_3 RGDPGR + \beta_4 HUC + \beta_5 CPS + \beta_6 INFRA + U_{t2} \quad 3.2$$

β_0 *is the constant term*

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ *and* β_6 *are the respective parametermers of the independent variables of the manufacturing subsectors − employment equation*

U_{t2} *is the error term of the manufacturing subsector − employment equation*

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ *and* $\beta_6 > 0$

Estimation procedures

Several procedures were used to estimate the study's specified equation. The procedures included unit root test, cointegration test, Granger causality test, and the estimation of an Autoregressive Distributed Lag (ARDL) model. The Augmented Dickey–Fuller (ADF) unit root test was employed to determine the stationarity conditions of the variables. The co-integration test was conducted for the presence or absence of co-integration between series of the same order of integration. Co-integration between variables implies that equilibrium or a long-run relationship exists between a set of time-series variables, provided that the series are integrated in the same sequence. A lack of co-integration indicates that these variables have no long-run relationship. The VAR causality/Block Exogeneity Wald test was employed to investigate the long-run equilibrium relationship among the selected macroeconomic variables in the model. The study adopted the autoregressive distributed lag (ARDL) modelling technique as its main technique of estimation. This estimation technique was chosen because the time series properties of the variables met the

requirements for its adoption, which is that variables must not be stationary after the second difference but be of mixed stationarity at the level and after the first difference.

The procedure for estimating an ARDL model involves first testing for the stationarity of the variables. If they have mixed stationery at the level, the optimum lag selection is done. Then the model is tested to ensure that it is dynamically stable and has no serial correlation. Then a bounds test is done to determine if there is an existence of the long-run relationship among the variables in the model. Then the long-run coefficients and short-run coefficients are extracted along with the error correction term.

Therefore, for an adjustment error correction, the sign of the residual coefficient must be negative and statistically significant. In this regard, the greater the absolute value of the coefficient, the quicker we reach equilibrium in the long run. The short – run relationship based on equations3.2 is as follows:

$$\Delta MANEMP_t = \alpha_0 + \sum_{i=1}^{j} \alpha_{1i}\, \Delta MANEX_{t-i} + \sum_{i=1}^{j} \alpha_{2i}\, \Delta \log(INV)_{t-i} + \sum_{i=1}^{j} \alpha_{4i}\, \Delta RGDPGR)_{t-i} + \sum_{i=1}^{j} \alpha_{5i}\, \Delta \log(HUC)_{t-i} + \sum_{i=1}^{j} \alpha_{6i}\, \Delta \log(CPS)_{t-i} + \sum_{i=1}^{j} \alpha_{7i}\, \Delta \log(INFRA)_{t-i} + \varphi ECM_{t-i} + U_t \quad 3.3$$

The ECM is error correction factor of the equation representing the speed of adjustment.

RESULTS AND FINDINGS

Presentation and analysis of descriptive data

Descriptive statistics

The result of the descriptive statistics of MANEMP, log (MANEX), log (HUC), log (INFRA), and log (INV) as presented in table 4.1a shows the mean or average values of 12.32 per cent, N346billion, 26,296,582, 109.21 per kilowatt and N8,040 billion respectively. The maximum value of MANEMP, log (MANEX), log (HUC), log (INFRA), and log (INV) were 12.17 per cent, 37.6billion, 27,408,702, 101.41 per kilowatt and N2,860 billion respectively. The minimum values of MANEMP, log (MANEX), log (HUC), log (INFRA), and log (INV) are 10.15 per cent, N1,900,251, 11,157,776, 50.90 per kilowatt and N87.6 billion respectively. The analysis of the skewness of the variables as showed indicates that the variables MANEXP, MANEX, INFRA and INV were positively skewed while HUC was negatively skewed. The kurtosis analysis also showed the distribution of the variables used in the study. The kurtosis analysis showed that MANEX and INV were leptokurtic, which implies that the respective kurtosis values of these variables were greater than 3, that is, it peaked and possessed a thick tail. This indicates that there is possible outlier in the MANEX and INV variables. But INFRA, HUC, CPS, and MANEMP were platykurtic, meaning that their respective kurtosis values were less than 3 which imply that they are normally distributed.

The correlation matrix of the manufacturing-employment equation results is presented in table 4.1b and the results revealed that there is a positive relationship between MANEMP and MANGDP which is in line with theoretical expectations. According to relevant theories, increase in manufacturing output will lead to creation of job opportunities. From the result in table 5.2, MANEMP also has a negative relationship between log (MVA), log (HUC), log (INFRA), log (INV), RGDPGR, and log (CPS) respectively. This negative correlation relationship is not in line with relevant theoretical expectations because their expected relationship is positive.

TABLE 4.1a
Descriptive statistics, 1981 -2023

	MANEMP	MANEX	HUC	INFRA	INV
Mean	12.32	N346 billion	26,296,582.00	109.21	N 8,040 billion
Median	12.17	37.6 billion	27,408,702.00	101.41	N2,860 billion
Maximum	13.42	N1,710 billion	45,586,464.00	156.80	N38,200 billion
Minimum	10.15	1,900,251	11,157,776.00	50.90	N87.6 billion
Skewness	0.08	1.40	-0.26	0.04	1.58
Kurtosis	2.34	3.71	2.13	1.64	4.50
Obs	43	43	43	43	43

Source: computation by Author, 2024, with the assistance of E-view 9.

TABLE 4.1b
Correlation matrix of the manufacturing export-employment equation

	MANEMP						
MANEMP	1						
log(MANEX)	-0.7868	1					
log(CPS)	-0.8085	0.9680	1				
log(HUC)	-0.7755	0.9553	0.9608	1			
log(INFRA)	-0.7174	0.8427	0.8676	0.7937	1		
log(INV)	-0.7825	0.9704	0.9871	0.9797	0.8235	1	
RGDPGR	-0.4673	0.4691	0.3783	0.4418	0.3826	0.3665	1

Source: computation by Author, 2024, with the assistance of E-view 9

UNIT ROOT TEST RESULTS

TABLE 4.2

Unit root test results: ADF and PP**:** summarized result of the unit root test results**;** 1981-2023

Variable	At level		After first difference		Remark
	ADF	PP	ADF	PP	
Log(INFRA)	-3.7580	-4.0223	NE	NE	I(0)
	(0.0294)	(0.0156)			
Log(INV)	-1.1984	-1.6755	-4.4236	-4.23447	I(1)
	(0.8976)	(0.7440)	(0.0057)	(0.0070)	
Log(MANEX)	-2.1651	-2.2468	-7.8180	-7.9244	I(1)
	(0.4956)	(0.4522)	(0.0001)	(0.0001)	
MAMEMP	-2.1163	-1.2356	-3.6776	-3.0001	I(0) After
	(0.5205)	(0.8895)	(0.0360)	(0.1445)	KPSS confirmatory test
RGDPGR	-3.7406	-4.1496	NE	NE	I(0)
	(0.0312)	(0.0113)			
Log(CPS)	0.0664	0.0328	-4.0554	-4.0006	I(1)
	(0.9994)	(0.9954)	(0.0145)	(0.0166)	
	Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test (confirmatory test)				
	At level		After first difference		Remark
MANEMP	0.1217(0.146000)		N/E		I(0)

Figures in brackets are corresponding probability values of ADF and PP statistics.
NE stands for "not estimated", this is for variables whose series were stationary at level and there was no need to go further.

Source: computation by Author, 2024, with the assistance of E-view 9.

The Bounds test (co-integration) result

Table 4.3 shows the results of the Bounds test result for the manufacturing export-employment equation. The F-statistics value of 7.56 is greater than the critical value of 3.61 at the 5% level of the upper bounds. This means that the null hypothesis of no cointegration in the manufacturing export-employment equation is rejected, and the alternative hypothesis of cointegration in the model of the manufacturing export-employment equation is accepted. This means that at a 5 percent significance level, there is long-run equilibrium relationship among the variables in the manufacturing export-employment model.

TABLE 4.3
Bounds test result for the manufacturing export-employment equation

Null Hypothesis: No long-run relationships exist			
Test Statistic		Value	K
F-statistic		7.564038	6
	Critical Value Bounds		
Significance		I0 Bound	I1 Bound
	10%	2.12	3.23
	5%	2.45	3.61
	2.50%	2.75	3.99
	1%	3.15	4.43

Source: computation by Author, 2024, with the assistance of E-view 9.

ARDL error correction and short run parsimonious results

The manufacturing export-employment equation short-run dynamics result is shown in Table 4.4a. The short-run coefficient result of the current period of log (MANEX) is -0.1318 with its corresponding probability value of 0.2190. This shows a negative impact of MANEX on MANEMP in the short run. However, this is not statistically significant at a five per cent significance level, given that the corresponding probability value of 0.2190 is greater than the five percent significance level. This result implies that a one percent increase in MANEX will lead to a 0.0013 percent decrease in MANEMP, all other things being equal.

The short-run coefficient result of the lag one log value (MANEX (-1)) is -0.2112 with its corresponding probability value of 0.1010. This shows a negative but not statistically significant impact of lag one period value of log (MANEX) on MANEMP at a five per cent level of significance in the short-run. This means that a one percent increase in lag one period of log (MANEX) will lead to a 0.0021 percent decrease in current MANEMP, all other things being equal. However, this impact is not statistically significant because the probability value is greater than a five percent significance level. The short-run coefficient result of the lag two log value (MANEX (-2)) is 0.0934 with its corresponding probability value of 0.3117. This shows a positive but not statistically significant impact of lag two-period value of log (MANEX) on MANEMP at a five per cent level of significance in the short-run. This means that a one percent increase in lag two periods of log (MANEX) will lead to a 0.00093 percent increase in current MANEMP, all other things being equal, and this impact is not statistically significant because the probability value is greater than a five percent level of significance.

The short-run coefficient result of the current period of log (CPS) is 0.4537, with its corresponding probability value of 0.4022. This shows a positive relationship between log (CPS) and MANEMP

in the short run, but this is not statistically significant given that the corresponding probability value is greater than a five percent significance level. This result implies that a one percent increase in CPS will lead to a 0.0045 percent increase in MANEMP, all other things being equal. Judging from the probability value, this impact is not statistically significant at a five per cent level of significance. The short-run coefficient result of the lag one value of log (CPS (-1)) is 0.8707 with its corresponding probability value of 0.1461. This shows a positive but not statistically significant impact of lag one period value of log (CPS) on MANEMP at a five per cent level of significance in the short-run. This means that a one percent increase in lag one period of CPS will lead to a 0.0087 percent increase in current MANEMP, all other things being equal. This impact is not statistically significant because the probability value is greater than a five percent significance level.

The short-run coefficient results of the lag two log value (CPS (-2)) is -0.5311 with its corresponding probability value of 0.3419. This shows a negative but not statistically significant impact of the lag two-period value of log (CPS) on MANEMP at a five per cent level of significance in the short run. This means that a one percent increase in lag two periods of CPS will lead to a 0.0053 percent decrease in current MANEMP, all other things being equal. However, this impact is not statistically significant because the probability value is greater than a five percent significance level. The short-run coefficient result of the lag three value of log (CPS (-3)) is -0.8368 with its corresponding probability value of 0.0597. This shows a negative but not statistically significant impact of the lag three-period value of log (CPS) on MANEMP at a five per cent level of significance in the short run. This means that a one percent increase in lag three periods of CPS will lead to a 0.0084 percent decrease in current MANEMP, all other things being equal. This impact is not statistically significant because the probability value is greater than a five percent significance level.

The short-run coefficient result of the current period of log (HUC) is -2.1810 with its corresponding probability value of 0.1162. This shows a negative relationship between log (HUC) and MANEMP in the short run. However, this is not statistically significant, given that the corresponding probability value is greater than a five percent significance level. This result implies that a one percent increase in HUC will lead to a 0.0022 percent decrease in MANEMP, all other things being equal, and judging from the probability value, this impact is not statistically significant at a five per cent level of significance. The short-run coefficient result of the lag one value of log (HUC (-1)) is 3.8361 with its corresponding probability value of 0.0228. This shows a positive and statistically significant impact of lag one period value of log (HUC) on MANEMP at a five per cent level of significance in the short-run. This means that a one percent increase in lag one period of HUC will lead to a 0.038 percent increase in current MANEMP, all other things being equal. This impact is statistically significant because the probability value is greater than a five percent significance level.

The short-run coefficient result of the lag two value of log (HUC (-2)) is -0.4616 with its corresponding probability value of 0.6889. This shows a negative but not statistically significant impact of the lag two-period value of log (HUC) on MANEMP at a five per cent significance level in the short run. This means that a one percent increase in lag two periods of HUC will lead to a 0.0046 percent decrease in current MANEMP, all other things being equal. However, this impact is not statistically significant because the probability value is greater than a five percent significance level. The short-run coefficient result of the lag three value of log (HUC (-3)) is -1.3254 with its corresponding probability value of 0.2693. This shows a negative but not statistically significant impact of the lag three-period value of log (HUC) on MANEMP at a five per cent significance level in the short run. This means that a one percent increase in lag three periods of HUC will lead to a 0.013 percent decrease in current MANEMP, all other things being equal. This impact is not statistically significant because the probability value is greater than a five percent significance level.

The short-run coefficient result of the current period of log (INFRA) is 1.2824, with its corresponding probability value of 0.1272. This shows a positive relationship between log (INFRA) and MANEMP in the short run, but this is not statistically significant given that the corresponding probability value is greater than a five percent significance level. This result implies that a one percent increase in log (INFRA) will lead to a 0.013 percent increase in MANEMP, all other things being equal. Judging from the probability value, this impact is not statistically significant at a five per cent level of significance. The short-run coefficient result of the lag one log value (INFRA (-1)) is 1.5198, with its corresponding probability value of 0.0611. This shows a positive but not statistically significant impact of lag one period value of log (INFRA) on MANEMP at a five per cent level of significance in the short-run. This means that a one percent increase in lag one period of log (INFRA) will lead to a 0.015 percent increase in current MANEMP, all other things being equal. This impact is not statistically significant because the probability value is greater than a five percent significance level but it is significant at 10% level. The short-run coefficient result of the lag two log value (INFRA (-2)) is 2.9419 with its corresponding probability value of 0.0039. This shows a positive and statistically significant impact of the lag two-period value of log (INFRA) on MANEMP at a five per cent significance level in the short run. This means that a one percent increase in lag two periods of log (INFRA) will lead to a 0.029 percent increase in current MANEMP, all other things being equal, and this impact is statistically significant because the probability value is less than a five percent level of significance. The short-run coefficient result of the lag three log value (INFRA (-3)) is -0.8676 with its corresponding probability value of 0.1613. This shows a negative but not statistically significant impact of the lag three-period value of log (INFRA) on MANEMP at a five per cent significance level in the short run. This means that a one percent increase in lag three periods of log (INFRA) will lead to a 0.0087 percent decrease in current MANEMP, all other things being equal, but this impact is not statistically significant because the probability value is greater than the five percent level of significance.

The short-run coefficient result of the current period of log (INV) is 1.3334, with its corresponding probability value of 0.0337. This shows a positive relationship between log (INV) and MANEMP in the short run, which is statistically significant given that the corresponding probability value is less than a five percent significance level. This result implies that a one percent increase in INV will lead to a 0.013 percent increase in MANEMP, all other things being equal. Judging from the probability value, this impact is statistically significant at a five per cent significance level. The short-run coefficient result of the lag one log value (INV (-1)) is 0.3241, with its corresponding probability value of 0.5630. This shows a positive but not statistically significant impact of lag one period value of log (INV) on MANEMP at a five per cent level of significance in the short-run. This means that a one percent increase in lag one period of INV will lead to a 0.0032 percent increase in current MANEMP, all other things being equal. This impact is not statistically significant because the probability value is greater than a five percent significance level.

The short-run coefficient result of the lag two value of log (INV (-2)) is -0.8977 with its corresponding probability value of 0.1682. This shows a negative but not statistically significant impact of the lag two-period value of log (INV) on MANEMP at a five per cent level of significance in the short run. This means that a one percent increase in lag two periods of INV will lead to a 0.0090 percent decrease in current MANEMP, all other things being equal. This impact is not statistically significant because the probability value is greater than a five percent significance level. The short-run coefficient result of the lag three log value (INV (-3)) is 2.1544 with its corresponding probability value of 0.0086. This shows a positive and statistically significant impact of the lag three-period value of log (INV) on MANEMP at a five per cent level of significance in the short run. This means that a one percent increase in lag three periods of INV will lead to a 0.022 percent increase in current MANEMP, all other things being equal. This impact is statistically significant because the probability value is less than a five percent significance level. The short-run coefficient result of the current period of RGDPGR is 0.0093, with its corresponding probability value of 0.4202. This shows a positive relationship between RGDPGR and MANEMP in the short run, but this is not statistically significant given that the corresponding probability value is greater than a five percent significance level. This result implies that a one percent increase in RGDPGR will lead to a 0.0093 percent increase in MANEMP, all other things being equal. Judging from the probability value, this impact is not statistically significant at a five per cent level of significance. The short-run coefficient result of the lag one value of RGDPGR (-1) is 0.0275 with its corresponding probability value of 0.0086. This shows a positive and statistically significant impact of lag one period value of RGDPGR on MANEMP at a five per cent level of significance in the short-run. This means that a one percent increase in lag one period of RGDPGR will lead to a 0.00375 percent increase in current MANEMP, all other things being equal. This impact is statistically significant because the probability value is less than a five percent significance level.

The error correction coefficient, or the speed of adjustment, is -0.2974 with a corresponding probability value of 0.0208. This is a correct sign and statistically significant because the probability value is less than a 5% significance level. This means that about 29.74 per cent of the disequilibrium in the short run is corrected in the long run. This is a very poor speed of adjustment from the short-run disequilibrium to the long-run. The correctness of the sign and the statistical significance of the error correction coefficient confirm the existence of a long-run relationship between the dependent and the independent variables.

The manufacturing export-employment equation passed the diagnostic tests, as shown in Table 44a. The adjusted R-squared of the manufacturing export-employment equation is 0.9883. This means that about 98.83 per cent variation in the dependent variable, MANEMP, was explained by the variations of the independent variables [log(MANEX), log(CPS), log(HUC), log(INFRA), log(INV), and RGDPGR).

This shows that the manufacturing export-employment equation has a good fit. Also, the F-statistics for the manufacturing export-employment equation is 108.64 with its corresponding probability of 0.0001. This shows that all the independent variables have a joint significant impact on MANEMP, and this is equally good. The Durbin-Watson (D-W) statistics for the manufacturing export-employment equation is 2.0890, which is approximately two and, by the rule of thumb, shows no presence of autocorrelation in the estimated model. Breusch-Godfrey Serial Correlation LM test observed R-Squared is 2.0902 with a chi-Square probability of 0.3000. This is not statistically significant at five per cent, meaning there is no serial correlation in the estimated model. Heteroskedasticity Test: Breusch-Pagan-Godfrey observed R-Squared is 28.5847 with a chi-Square probability of 0.4868. This is not statistically significant at a five per cent significance level, and it shows the presence of homoscedasticity (equal spread or equal variance) in the estimated model.

TABLE 4.4a
ARDL error correction and short run parsimonious results

Dependent variable: D(MANEMP)				
Variable	**Coefficient**	**Standard error**	**t-Statistic**	**Probability**
D(MANEMP(-1))	0.6274	0.2014	3.1143	0.0144
Dlog(MANEX)	-0.1318	0.0989	-1.3337	0.2190
Dlog(MANEX(-1))	-0.2112	0.1140	-1.8531	0.1010
Dlog(MANEX(-2))	0.0934	0.0865	1.0798	0.3117
Dlog(CPS)	0.4537	0.5130	0.8845	0.4022
Dlog(CPS(-1))	0.8707	0.5409	1.6097	0.1461
Dlog(CPS(-2))	-0.5311	0.5257	-1.0104	0.3419

Dlog(CPS(-3))	-0.8368	0.3817	-2.1922	0.0597
Dlog(HUC)	-2.1810	1.2380	-1.7617	0.1162
Dlog(HUC(-1))	3.8361	1.3651	2.8102	0.0228
Dlog(HUC(-2))	-0.4616	1.1119	-0.4152	0.6889
Dlog(HUC(-3))	-1.3254	1.1167	-1.1869	0.2693
Dlog(INFRA)	1.2824	0.7536	1.7018	0.1272
Dlog(INFRA(-1))	1.5198	0.6981	2.1772	0.0611
Dlog(INFRA(-2))	2.9419	0.7325	4.0163	0.0039
Dlog(INFRA(-3))	-0.8676	0.5621	-1.5436	0.1613
Dlog(INV)	1.3334	0.5210	2.5591	0.0337
Dlog(INV(-1))	0.3241	0.5372	0.6033	0.5630
Dlog(INV(-2))	-0.8977	0.5925	-1.5152	0.1682
Dlog(INV(-3))	2.1544	0.6238	3.4538	0.0086
D(RGDPGR)	0.0093	0.0110	0.8497	0.4202
D(RGDPGR(-1))	0.0375	0.0106	3.5278	0.0078
ECT(-1)	-0.2974	0.1036	-2.8712	0.0208
	Diagnostic test results			
Adjusted R-squared	0.9883	Breusch-Godfrey Serial Correlation LM test observed R-Squared		2.0902
F-statistic	108.64	Prob. Chi-Square		(0.3000)
Prob(F-statistic)	(0.0001)	Heteroskedasticity Test: Breusch-Pagan-Godfrey observed R-Squared		28.5847
Durbin-Watson Statistic	(2.0890)	Prob. Chi-Square		(0.4868)

Source: computation by Author, 2024, with the assistance of E-view 9.

ARDL long run results

Table 4.4b shows the long-run equation of the manufacturing export-employment equation. The result of the long-run coefficient of log (MANEX) is 0.5247 with a corresponding probability value of 0.3277. This shows a positive impact of log (MANEX) on MANEMP; the coefficient is not statistically significant because the corresponding probability value is greater than a 5 percent level of significance. This means that a one percent increase in MANEX will lead to about 0.0052 percent increase in MANEMP in Nigeria in the long run, all other things being equal.

The result of the long-run coefficient of log (CPS) is 2.5333, with a corresponding probability value of 0.2886. This shows a positive impact of log (CPS) on MANEMP, but the result is not statistically significant because the corresponding probability value is greater than a 5 percent level

of significance. This means that a one percent increase in CPS will lead to about a 0.025 percent increase in MANEMP in Nigeria in the long run, all other things being equal. The result of the long run coefficient of log (HUC) is 0.0583 with a corresponding probability value of 0.9926. This shows a positive impact of log (HUC) on MANEMP.

TABLE 4.4b

ARDL long run results

Dependent variable: MANEMP				
Variable	Coefficient	Standard. Error	t-Statistic	Probability
log(MANEX)	0.5247	0.5033	1.0425	0.3277
log(CPS)	2.5333	2.2288	1.1366	0.2886
Log(HUC)	0.0583	6.0806	0.0096	0.9926
Log(INFRA)	-5.2768	2.7805	-1.8978	0.0943
Log(INV)	5.1207	3.3493	1.5289	0.1648
RGDPGR	0.1775	0.0524	3.3858	0.0096
Constant	51.3171	28.4688	1.8026	0.1091

Source: computation by Author, 2024, with the assistance of E-view 9.

However, the result is statistically insignificant because the corresponding probability value is greater than the 5 per cent significance level. This means that a one percent increase in HUC will lead to about 0.00058 percent increase in MANEMP in Nigeria in the long run, all other things being equal.

The result of the long-run coefficient of log (INFRA) is -5.2768, with a corresponding probability value of 0.0943. This shows a negative impact of log (INFRA) on MANEMP. However, the result is not statistically significant because the corresponding probability value is greater than a 5 per cent significance level. Meanwhile, it is significant at 10% level of significance. Thus, a one percent increase in INFRA will lead to about a 0.053 percent decrease in MANEMP in Nigeria in the long run, all other things being equal.

The result of the long-run coefficient of log (INV) is 5.1207, with a corresponding probability value of 0.1648. This shows a positive impact of log (INV) on MANEMP, but the result is not statistically significant because the corresponding probability value is greater than a 5 percent level of significance. This means that a one percent increases in INV will lead to about a 0.051 percent increase in MANEMP in Nigeria in the long run, all other things being equal.

The result of the long-run coefficient of RGDPGR is 0.1775 with a corresponding probability value of 0.0096. This shows a positive impact of RGDPGR on MANEMP, and the result is

statistically significant because the corresponding probability value is less than a 5 percent level of significance. This means that a one percent increase in RGDPGR will lead to about a 0.18 percent increase in MANEMP in Nigeria in the long run, all other things being equal.

DISCUSSION OF FINDINGS

The study found a negative and statistically insignificant impact of MANEX and lag one period value of MANEX, respectively, on MANEMP in the short-run at a five percent level of significance. The lag two-period value of MANEX was found to have a positive but not statistically significant impact on MANEMP at a five percent level of significance. This is different from theoretical expectations, as an increase in manufacturing export is supposed to lead to an increase in employment. However, the reverse is the case here which may be because more Nigerian manufacturing exports are carried out by multinational corporation whose method of production are usually capital-intensive and less labor-intensive; thus, an increment in manufacturing exports only lead to more of the deployment of machinery used in production than the employment of labours in the short run. Also, in the long run, the study found a positive impact of MANEX on MANEMP, but the result was not statistically significant at a 5 percent level of significance. This implies that as manufacturing exports increase in the long run, manufacturing employment will also increase. However, the increases in manufacturing export are only some of the drivers of manufacturing employment in the long run in Nigeria. The positive impact of manufacturing export on employment is in line with theoretical expectation and also in agreement with the findings of Kang and Whang (2022), who found that a firm's entry into export markets has a positive impact on its employment of regular workers; Villani and Fana (2020), who found that export trade accounts for most of the final output's employment; Molepo (2020) who study found exports to be positively associated with job creation.

CONCLUSION AND RECOMMENDATIONS

The study was undertaken to examine the impact of manufacturing exports and employment in Nigeria. The Nigerian economy has been gradually diversifying from oil into manufacturing and other sectors; the manufacturing sector development is expected to generate employment opportunities and help minimize the social repercussion of the lack of employment opportunities for the teeming Nigerian unemployed. The study concludes that manufacturing exports positively impacts employment and should be pursued.

The positive and statistically significant impact of manufacturing exports on employment at a five percent level of significance in the long run calls for the fiscal authorities to make the development and diversification of the manufacturing sector one of its top long-term policy strategies for the creation of employment for Nigeria. This finding highlights the importance of promoting and supporting the growth of the manufacturing sector in Nigeria to reduce unemployment rates and

improve the country's overall economic well-being. It also suggests that policies aimed at attracting foreign investment in this sector could positively impact employment generation. This can be accomplished by providing incentives to the operators of the manufacturing sector, such as import waivers on essential imported inputs, providing and guaranteeing large commercial trading businesses to enter the manufacturing of their products through licensing, facilitating and acting as surety in franchise agreements with foreign manufacturers, and any other incentive to help lower the manufacturing sector's cost of production. Therefore, the government must prioritize the development of the manufacturing sector by providing necessary support and incentives to attract more investors and increase local production, which will lead to job creation and economic growth for Nigeria. This could also include investing in infrastructure, improving access to credit, and implementing policies that promote technological innovation and skill development in the manufacturing industry.

REFERENCES

Abbey, E.N., Gyeke-Dako, A., Abena D. Oduro, A.D., Turkson, F.E. & Baffour, P. T. (2017). The employment generating effects of exporting: Firm level evidence of micro, small and medium enterprises (MSMEs) in Ghana. ***R&D*** Working Paper 2017/02 World Trade Institute of the University of Bern, Switzerland

Ali, A.A. & Dadush, U. (2019). *Manufacturing employment, international trade and China*. Rabat-Morocco: Policy Center for the New South.

Appelt, K. (2016). Keynes' Theory of the Interest Rate: A Critical Approach. *Theory, Methodology, Practice-Review of Business and Management, 12*(01), 3-8.

Bodie, M. T. (2013). Participating as a Theory of Employment. *Notre Dame Literature Review, 89(1), 661-676.*

Central Bank of Nigeria (2021). *Statistical Bulletin,20*. Abuja; Research Department. Central Bank of Nigeria.

Dahlström, C., Lapuente, V., & Teorell, J. (2012). The merit of meritocratization: Politics, bureaucracy, and the institutional deterrents of corruption. *Political Research Quarterly*, *65*(3), 656-668.

Dikilitas, B., Fazlioglu, B., & Dalgic, B. (2022). The impact of exporting on women's employment. *International Journal of Manpower*, *43*(4), 926-949.

Dine, M. N., & Chalil, T. M. (2021). Impact of Backward Linkages and Domestic Contents of Exports on Labor Productivity and Employment. *Journal of Economic Integration*, *36*(4), 607-625.

Habanabakize, T., & Muzindutsi, P. F. (2018). Analysis of the Keynesian theory of employment and sectoral job creation: The case of the South African manufacturing sector. *Folia Oeconomica Stetinensia*, *18*(1), 123-143.

Hussmanns, R. (2004). Defining and measuring informal employment. *Geneva: International Labour Office*.

Inekwe, J. N. (2013). FDI, employment and economic growth in Nigeria. *African Development Review*, *25*(4), 421-433.

Kang, Y., & Whang, U. (2022). Exports and firm employment: the roles of R&D and exports to affiliates. *Applied Economics*, *54*(30), 3426-3438.

Keynes, J. M. (1937). The general theory of employment. *The quarterly journal of economics*, *51*(2), 209-223.

Michel, B., & Hambÿe, C. (2022). Export-sustained employment: accounting for exporter-heterogeneity in input–output tables. *Economic Systems Research*, *34*(2), *215-233.*

Mitchell, W., & Muysken, J. (2008). *Full employment abandoned: shifting sands and policy failures*. Northampton: Edward Elgar Publishing.

Mohler., L. Weder, R & Wyss, S. (2018). International trade and unemployment: towards an investigation of the Swiss case. *Swiss Journal of Economics and Statistics, 154(10), 1-12.*

Molepo, N. S. (2021). Impact of international trade on employment in orange industry of South Africa. *Journal of Agribusiness and Rural Development*, *60*(2), 193-201.

Nguyen, T.K. (2015). Manufacturing exports and employment generation in Vietnam. *Southeast Asian Journal of economics, 3(2), 1-22.*

Odey, F. I. & Nwafor, J. U. (2022). Corporate governance and unemployment in the banking sector: The Nigerian trajectory. *Journal of Business and African Economy,* 8 (1), 21-34.

Oti, P. A., Odigbo, B. E. & Odey, F. I. (2016). Nigeria's debt burden and development tangle: The socio-economic and political implications. *Journal of Economics and Sustainable Development*, 7(20), 92-101.

Owan, J. O. (2023). International trade and economic growth in Nigeria. *International Journal of Development and Economic Sustainability*, 11 (5), 68-86.

Owan, J. O., Ifere, E. O. & Odey. F. I. (2024). The impact of manufacturing output on employment in Nigeria. *International Journal of Developing and Emerging Economies*, 12(2), 1-23.

Qian, X., Rafique, K., & Wu, Y. (2020). Flying with the Dragon: Estimating Developing Countries' Gains from China's Imports. *China & World Economy*, *28*(5), 1-25.

The Federal Ministry of Budget and National Planning (2017). *Economy recovery and growth plan*. Abuja: The Ministry of Budget and National Planning.

Tuhin, R. (2015). Impact of international trade on employment: Evidence from Australian manufacturing industries. *Office of the Chief Economist research papers, 2(1)*, 1-29.

Villani, D., & Fana, M. (2020). Productive integration, economic recession and employment in Europe: an assessment based on vertically integrated sectors. *Journal of Industrial and Business Economics, 48(1)*, 137 - 157.

Yilmaz, H. A. (2021). İhracat ve İstihdam İlişkisi Üzerine Panel Veri Modeli Analizi: OECD Ülkeleri Örneği. *Journal of Economic Policy Researches, 8*(2), *115-139.*