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The Structural Transformation Paradox: A Sectoral Analysis of Employment Elasticities in Nigeria

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Abstract

The study investigated the structural transformation paradox by undertaking a sectoral analysis of employment elasticities in Nigeria across agriculture, manufacturing, and services sectors from 1981 to 2024. The theoretical foundation comprised Lewis' dual-sector model, Chenery-Srinivasan's patterns of transformation, and Rodrik's premature de-industrialization. Using ordinary least squares, data on the value added of the three sectors were regressed on the employment shares of the three sectors, respectively, after adjusting for structural periods and control variables. The findings revealed a disconnect between sectoral output growth and employment generation. Agriculture, while exhibiting the highest employment elasticity, reflects low-productivity subsistence farming. Manufacturing demonstrates a critically low and declining elasticity. The services sector presents a dualistic structure of a high-productivity, low-employment segment coexisting with a low-productivity, high-employment informal segment. The results confirmed the existence of a structural transformation paradox in Nigeria, where economic growth has not translated into productive mass employment.

Keywords: *Structural, Transformation, Employment, Elasticity, De-industrialization, Nigeria.*

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Background to the Study

The pursuit of economic development is closely connected to the process of structural transformation, the redistribution of economic activity and labour from traditional, low-productivity sectors, such as agriculture, to modern, high-productivity sectors, such as manufacturing and high-value services. This transition is a key feature of economies that have successfully moved from poverty to prosperity. Historically, industrialization has been the main driver of this transformation, absorbing surplus labour, increasing overall productivity, and encouraging widespread income growth (Chenery, 1960). For Nigeria, the need for sustainable and inclusive economic development has never been more urgent. With a population exceeding 200 million (WDI, 2024) and a growing youth demographic, creating productive employment remains a critical socioeconomic and security challenge. An analysis of the country's long-term economic trajectory, however, reveals a persistent and troubling trend. Despite periods of impressive GDP growth, particularly driven by the oil and gas sector, this growth has consistently failed to produce equivalent, productive employment opportunities (Nwakeze & Okonkwo, 2019). This ongoing disconnect indicates a fundamental flaw in Nigeria's economic growth pattern and raises important questions about the nature of its structural transformation over the past four decades.

The Nigerian economy presents a puzzling historical picture. Following the oil boom of the 1970s, the economy showed early signs of modernization, with a declining share of agriculture in GDP. Data from the World Development Indicators (WDI) indicates that this trend has continued from 1980 to the present, accompanied by a growing dominance of the services sector. However, beneath this surface of structural change lies a more troubling reality. The manufacturing sector, traditionally the driver of mass employment and productivity improvements, peaked in the early 1980s and then experienced a prolonged period of stagnation and decline, contributing a small and often shrinking share to GDP. This phenomenon, known as "premature de-industrialization" (Rodrik, 2016), suggests that Nigeria's economy started moving away from agriculture without successfully passing through a strong, sustained industrial phase. Instead, it has jumped into a services-led growth model, largely skipping the stage that historically provided stable, mass employment.

This long-term pattern of transformation leads to what can be called a Structural Transformation Paradox. The paradox is this: although the economy has experienced significant sectoral shifts in GDP contribution since 1980, these changes have not resulted in the anticipated developmental outcomes, namely, productive mass employment and inclusive growth. The growth in the services sector is split; a small, high-productivity segment (e.g., finance, telecommunications) exists alongside a large, informal, low-productivity segment (e.g., petty trade, subsistence services). The latter often functions as an employer of last resort, employing labour not out of vibrancy but because of a lack of alternatives in farming or factories, which leads to widespread underemployment and insecure employment (International Labour Organization, 2023).

The main issue facing the Nigerian economy is the ongoing and long-term disconnect between the sectoral makeup of economic output growth and the capacity of those sectors to create

productive employment. While national accounts data over the years indicate an economy that is modernising with a declining agricultural sector and a growing services sector, labour market data show that a disproportionately large part of the workforce remains stuck in low-productivity jobs in agriculture and informal services. This long-standing imbalance suggests that Nigeria's process of structural transformation has been seriously distorted, and it has failed for decades to generate the number and quality of jobs needed to unlock its demographic advantages. Without a clear understanding and strategic redirection of this entrenched growth path, Nigeria risks continuing a cycle of poverty and inequality, even amidst periods of substantial GDP growth. It is based on these observations that the study aims to examine Nigeria's structural transformation by analysing the relationship between sectoral output growth and employment generation. Specifically, the study seeks to first review the historical trends in the sectoral composition of Nigeria's GDP and employment from 1980 to 2023, focusing on the Agriculture, Manufacturing, and Services sectors; second, to estimate and compare the employment elasticities of output growth for these sectors in Nigeria within the timeframe. This study holds importance for both academic and policy sectors. The findings will serve as a historical, data-based diagnosis of which sectors have driven employment growth versus those that have merely contributed to GDP increases over time. This can help shape more effective and historically-informed industrial policies, fiscal incentives, and human capital development. By examining how employment elasticity has evolved, the study can steer the government towards strategies that genuinely harness economic growth for job creation, ultimately offering clear pathways to employment based on lessons from the past.

Literature Review

Theoretical Framework

This study is based on the core theories of structural transformation and economic development, which serve as the analytical framework for understanding the link between sectoral output growth and employment in Nigeria.

The Classical Foundations: The Lewis Dual Sector Model

Lewis' (1954) influential work, Economic Development with Unlimited Supplies of Labour, described a dual economy consisting of a traditional, subsistence agricultural sector with low productivity, surplus labour, and zero marginal product of labour, and a modern, capitalist industrial sector where capital accumulation and productivity growth take place. The model offers the initial explanation for structural transformation: labour shifts from the low-productivity agricultural sector to the high-productivity industrial sector, driven by wage differences. This reallocation is expected to promote economic development without initially increasing wages, as the surplus labour provides a constant supply.

The Patterns of Transformation: The Chenery-Syrquin Framework

Building on Lewis, Hollis B. Chenery and his collaborators (Chenery, 1960; Chenery & Syrquin, 1975) shifted from a dualistic to a multi-sectoral perspective, empirically establishing patterns of development. Their work identified stylized facts of development and introduced the concept of growth stages. They argued that countries move through a sequence of economic structures, and that successful development requires a shift from primary

production (agriculture) to manufacturing and then to services. They emphasized the role of industrialization as the engine of growth, noting that the manufacturing sector exhibits increasing returns to scale, generates technological spillovers, and produces tradable goods that can drive export-led growth.

The Premature De-industrialization

Rodrik's (2016) thesis on "Premature De-industrialization" observed that many developing countries, particularly in Latin America and Africa, are experiencing a decline in manufacturing employment and output at much lower levels of income than was the case in today's developed countries. Developing countries face competition from established manufacturing powerhouses (especially China), making it difficult to nurture domestic industries through import substitution. Manufacturing has become increasingly capital-intensive and automated, reducing its capacity to absorb large amounts of labour, even when output grows. Premature de-industrialization is problematic because manufacturing has traditionally been the sector that provides mass employment for semi-skilled workers; offers a pathway from low-productivity agriculture to middle-class incomes, and drives economy-wide productivity growth through learning-by-doing and technological diffusion.

Some Empirical Studies

Ngundu and Ngalawa (2023) analysed South Africa's severe unemployment, highlighting that 93% of the jobless population lacked higher education. This suggested that effective policy needed to stimulate inclusive, low-skill job creation. Their study tested the fundamental link between economic growth and job creation, known as Okun's law. They found evidence of "jobless growth" in the formal agricultural sector, where output had expanded without increasing employment. However, the informal sector—both agricultural and non-agricultural—conformed to Okun's law, with growth directly raising labour demand. Notably, employment in the informal non-agricultural sector was fairly elastic: a 1% rise in output growth had boosted jobs by 1.35%, with a rapid 86% adjustment to this new equilibrium within one year, *ceteris paribus*.

Basir *et al* (2015) investigated the influence of Sectoral Output (agriculture, industrial, and services sector output) on employment in Pakistan using annual data ranging from 1972 to 2014. Results are estimated using double forms of the equations. The study applied the unit root test and found the order of integration as 1. The long-run coefficients were estimated using the Johansen co-integration test, which suggests that agriculture, Industrial & Services sectors output and exports are positively linked with employment. Consumer Price Index, Exchange rate, and Population may have a positive as well as a negative link with employment. Short-run results showed convergence towards the long-run equilibrium.

Tregenna (2009) developed a new method using decomposition techniques to analyse changes in manufacturing employment levels and shares in 48 countries over periods of 'de-industrialisation'. The analysis separated changes in the levels and shares of employment in manufacturing into components associated with changes in the share of manufacturing in GDP, the growth of manufacturing value-added, the labour intensity of manufacturing

production, and economic growth. The results showed that the decrease in manufacturing employment is primarily linked to a reduction in the labor intensity of manufacturing, rather than a general decline in the size or share of the manufacturing sector. The study suggested that de-industrialisation should appropriately be defined in terms of a sustained decline in both the share of manufacturing in total employment and the share of manufacturing in GDP. Bae-Geun (2020) found that a relatively faster technological advance in the manufacturing sector (named manufacturing-specific technology shock) generates sectoral co-movements in employment in the short run, while it leads to sectoral shifts in employment in the long run. The behaviour of investment was the key to this finding. The study showed that the investment boom after a manufacturing-specific technology shock is consistent with the VAR evidence. Furthermore, the study constructed several alternative models to examine the role of each variable in the model. If there is no physical capital, manufacturing employment declines for all periods. Though other features were not critical for this paper's purpose, some frictions, especially sticky wages, improved responses on impact, which are important for business cycle properties.

Zaki *et al* (2020) assessed the relationship between employment intensity and sectoral output growth to examine whether economic growth was jobless or had created more jobs. Using panel data for 10 sectors over the period 1983-2010 for two Middle Eastern countries, Egypt and Jordan, they estimated employment-value added elasticities at the sectoral level using a random coefficient estimation technique. The findings showed that while manufacturing is the most important sector that created jobs in Egypt, services were more important in Jordan. For both countries, the mining sector is insignificant. Indeed, this showed to what extent the mining sector is capital-intensive, does not have significant value-added, and thus does not create jobs. Their decomposition analysis showed that the contribution of employment growth to value-added was higher than that of labour productivity. For Jordan, its growth was mainly attributed to employment growth, while its productivity growth was negative.

Olaniyan (2024) investigated the contributions of the three broad sectors of the economy to total employment over the period 1981 to 2021 using the autoregressive distributed lag technique. Sectoral output was proxied by agricultural GDP, industry GDP, and services GDP, respectively, while employment was measured by the total number of employed persons. The Bounds test showed the existence of cointegrating relationships between the series at both aggregated and disaggregated levels, necessitating both short and long run analysis for the study. The best performing sector in terms of employment intensity was the agricultural sector, which suggested its labour-intensive nature. The impact of growth in the industrial sector on employment appeared to be a case of jobless growth, while the impact of increases in service sector GDP on employment appeared to be more like the case of job-loss growth. The agricultural sector supported growth-led employment for Nigeria, while the service sector negated it. The service and industry sectors had low labour absorption capacity as the former is technology-driven, while the latter is capital-intensive.

Fakhri *et al* (2021) explored the impact of output and wage on labour demand in Saudi Arabia at the sectoral level. They applied cointegration and equilibrium correction methods to the

time-series data of 10 sectors over 1995–2016 using the demand side framework and considering the structural breaks in the data. They found that in the long run, employment is positively affected by the output, while the impact of the wage was negative in all sectors. In the short run, employment growth in all sectors reacted to the wage growth except for the government sector. While only some sectors responded to the output growth, the study found that employment adjusted to the desired equilibrium level in all sectors, but the time horizon for the adjustment processes varies across the sectors. Differences in estimated coefficients implied that policies should be sector-specific, as a 'one-fits-all' policy would fail to consider the sectoral specificities.

Padder and Mathavan (2022) analyzed the economic structure and employment in India from 1991 to 2019. The data were collected from the World Development Indicators during this period. Their analysis showed that employment conditions in India, regarding sectoral output and GDP per capita, have worsened over time. The share of employment in agriculture has decreased, while in industry and services, it has slightly increased. However, sectoral employment experienced a rapid decline relative to the changes in sectoral output from 1991 to 2019. Labour productivity increased across sectors despite a decline in actual employment. The trends in employment in sectors other than agriculture moved in the opposite direction and appeared unable to generate more jobs, leading instead to jobless growth.

Evaluation of Literature Review

Nigeria's experience, however, diverges from the Lewisian path. While labour has migrated out of agriculture, the modern industrial sector (manufacturing) has not absorbed it on the expected scale. Instead of a smooth shift to industry, the surplus labour has largely been absorbed by the informal services sector, creating a "Lewisian trap" where the modern sector remains underdeveloped, and labour from the traditional sector is diverted to low-productivity urban informality rather than high-productivity industry. This research directly addresses the identified gap by conducting a longitudinal analysis to investigate Nigeria's Structural Transformation Paradox. The study will provide a four-decade overview of the structural transformation process, using employment elasticity as a key diagnostic tool to measure the employment intensity of growth in Agriculture, Manufacturing, and Services. The study will empirically test the relevance of Rodrik's (2016) theory in the Nigerian context by examining whether the manufacturing sector's capacity to generate employment has indeed been weak and declining prematurely. The study will have a nuanced view of the services sector by calculating the employment elasticity for the services sector. The study will offer evidence to determine whether this sector's growth is associated with robust, productive job creation or if it primarily reflects a low-elasticity, low-productivity expansion.

Research Methodology

Design

The study adopted a longitudinal, descriptive, and inferential research design based on secondary time-series data. A longitudinal design captured the dynamics and evolution of structural transformation. The design is descriptive, aimed at documenting and analyzing trends in sectoral GDP and employment shares in line with the first objective. It is inferential in

its core objective to estimate the employment elasticity of output growth for the three key sectors, which answered objective two.

Data and Sources

The study relied exclusively on secondary macroeconomic data. The data source is the World Bank's World Development Indicators (WDI) database, a reputable and widely used source that ensures consistency and international comparability. The annual time-series data for Nigeria will be extracted for the period 1980-2024. The data comprises sectoral output data measured as value added. These data are Agriculture value added (AGVA), Industry value added (INDVA), and services value added (SERVA). It should be noted that industry is used as a broader proxy when manufacturing-specific data is incomplete. The study also includes the sectoral employment data measured as employment by sector (% of total employment). These data are employment in agriculture (EAGR), employment in industry (EIND), and employment in services (ESER).

Model Specification

The study specifies an econometric model in relation to the theoretical foundation to achieve the core objective of estimating employment elasticities for each sector. Equation one gives the functional model.

$$\ln(E_{it}) = \alpha_0 + \beta_i \ln(GDPVA_{it}) + U_{it} \quad (1)$$

Where $\ln(E_{it})$ is the natural logarithm of employment in each sector *i*, at time *t*; α is the constant or intercept; β_i is the coefficient of primary interest (the employment elasticity of output); $\ln(GDPVA_{it})$ is the natural logarithm of the value added (output) of each sector *i*, at time *t*; and U_{it} is the stochastic error term.

Incorporating the dual sector *a la* Lewis (1954) and the multi-sectoral perspective *a la* Chenery & Syrquin (1975), equation 1 will be estimated separately for each of the three sectors. The econometric equations for the sectoral model are displayed in equations 2, 3, and 4.

$$\ln(EAGR_{it}) = \alpha_0 + \beta_i \ln(AGVA_{it}) + U_{it} \quad (2)$$
$$\ln(EIND_{it}) = \alpha_0 + \beta_i \ln(INDVA_{it}) + U_{it} \quad (3)$$
$$\ln(ESER_{it}) = \alpha_0 + \beta_i \ln(SERVA_{it}) + U_{it} \quad (4)$$

Where $\ln(EAGR_{it})$ is the natural logarithm of employment in the agricultural sector at time *t*, $\ln(EIND_{it})$ is the natural logarithm of employment in the industrial sector at time *t*, and $\ln(ESER_{it})$ is the natural logarithm of employment in the services sector at time *t*.

Control variables were selected based on theoretical relevance to each sector and the Nigerian context. Modifying the three-sector model to incorporate the control variables, equations 4, 6, and 7, is presented thus:

$$\ln(EAGR_{it}) = \alpha_0 + \beta_1 \ln(AGVA_{it}) + \beta_2 \ln(SAP_{it}) + \beta_3 \ln(GFCF_{it}) + \beta_4 \ln(EXR_{it}) + U_{it} \quad (5)$$
$$\ln(EIND_{it}) = \alpha_0 + \beta_1 \ln(INDVA_{it}) + \beta_2 \ln(SAP_{it}) + \beta_3 \ln(GFCF_{it}) + \beta_4 \ln(EXR_{it}) + U_{it} \quad (6)$$
$$\ln(ESER_{it}) = \alpha_0 + \beta_1 \ln(SERVA_{it}) + \beta_2 \ln(SAP_{it}) + \beta_3 \ln(GFCF_{it}) + \beta_4 \ln(EXR_{it}) + U_{it} \quad (7)$$

A dummy variable for the Structural Adjustment Programme (SAP) accounted for the fundamental structural break in Nigeria's economic policy regime. The value, 0, for the year 1980 to the year 1985, and the value, 1, from the year 1986 onward. This regime shift, characterized by trade liberalization, exchange rate devaluation, privatization, and subsidy removal, fundamentally altered the relationship between sectoral output growth and employment generation. Omitting this control would conflate the effects of output growth with those of the policy regime change, potentially biasing the estimated employment elasticities.

The Gross Fixed Capital Formation (GFCF) was used to control for economy-wide investment trends that affect sectoral productivity and investment. GFCF captures investments in physical productive assets (machinery, buildings, infrastructure) that directly influence production capacity and labour demand across sectors. The official Exchange Rate (EXR) is included as a critical control variable to account for the influence of foreign exchange conditions on sectoral employment. The official exchange rate measures the price of foreign currency in the formal market and directly affects the cost of imported inputs, machinery, and intermediate goods used in domestic production.

Data Analysis Technique

First, the study uses the descriptive trend analysis to address objective 1, trends in sectoral value added (% of GDP) and sectoral employment (% of total employment). This graphical presentation provides a visual narrative of Nigeria's structural transformation, highlighting the divergences between output and employment shares.

Second, the data are subjected to unit root testing using the Augmented Dickey-Fuller (ADF) test to determine the level of stationarity and to avoid spurious regression results. The data were stationary at levels, which signified that the estimated relationships are valid in the long run. To ensure the robustness of the regression results, standard diagnostic tests were conducted. These included the tests for serial correlation (Breusch-Godfrey LM test), heteroscedasticity (White's test), normality test (Jarque-Bera test), and others.

Data Analysis

Trend Analysis

The trend analysis presents two distinct sets of economic indicators over 44 years, each reflecting a different measure of economic composition. The first trend diagram (EAGR, EIND, ESER) represents employment shares across three major sectors: Agriculture (EAGR), Industry (EIND), and Services (ESER). The second trend diagram (AGVA, INDVA, SERVA) represents the value-added shares of each sector in Nigeria. The data reveal profound shifts in economic structure, consistent with the classic model of structural transformation.

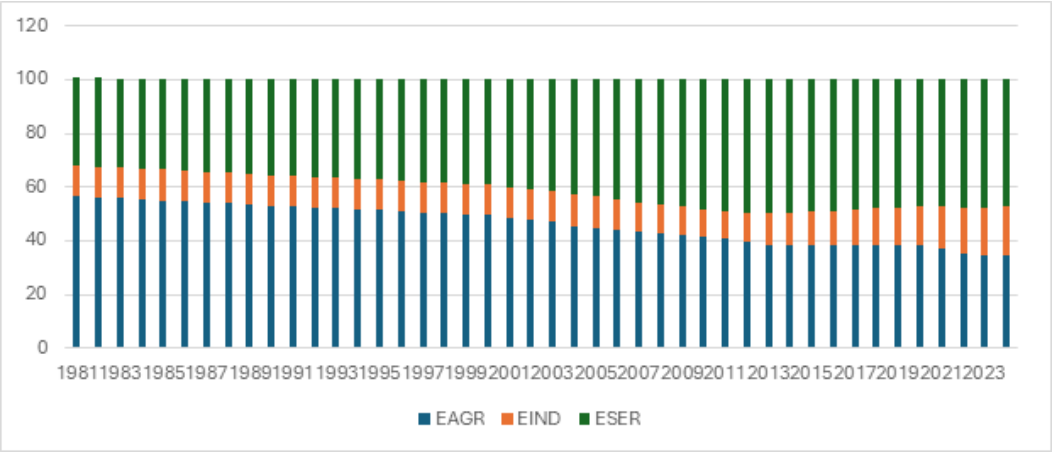

Figure 1: Trends in Employment Shares (EAGR, EIND, ESER)

The trend in employment shares in the agriculture sector fell dramatically from 56.46% in 1981 to 34.70% in 2024, a decline of over 21%. The pattern of the trend in employment shares in the agriculture sector shows a steady and gradual decline from 1981 to 2000, indicative of a mature process of labour moving out of agriculture. After the year 2000, the pace of decline accelerated, especially between 2000 and 2010, reflecting rapid industrialization and urbanization. The rate of decline has moderated in the last decade, with employment shares in the agriculture sector stabilizing around 34% to 38%. Trend in employment shares in Industry remained remarkably stable, even slightly declining, from 11.55% in 1981 to a low of 10.15% in 2011, before surging to 17.90% in 2024. Figure 1 shows that, for three decades (1981-2011), the industrial sector failed to absorb the labor exiting agriculture, its share hovering around 11%. This suggests that industrial growth during this period may have been capital-intensive rather than labour-intensive. The dramatic turnaround after 2011, with employment shares in Industry growing by over 7 percentage points, is the most significant recent shift. This could signal a successful, late-stage push into labour-intensive manufacturing, export-led growth, or a major government-led industrial policy initiative.

The trend in employment shares in the service sector grew consistently from 32.62% in 1981 to a peak near 49.93% in 2013, before slightly declining to 47.82% in 2024. The trend shows that services were the primary destination for labour throughout the period, absorbing the vast majority of workers leaving agriculture. Its share rose almost consistently until the year 2010. The plateau and slight decline after 2013 coincide exactly with the rise of employment shares in Industry. This indicates a significant structural shift: the service sector's decades-long role as the sole absorber of labour has been challenged, with industry now competing for and attracting workers.

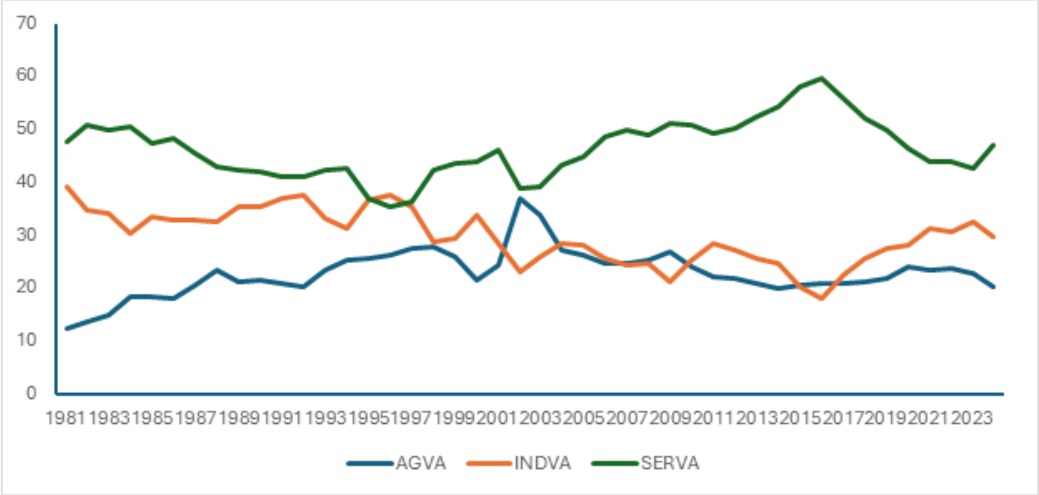

Figure 2: Trends in Value-Added Shares (AGVA, INDVA, SERVA)

The trend in agricultural value-added, which started at 12.24% in 1981, showed significant volatility (peaking at 27.91% in 1998), but ended at 20.35% in 2024, only 8 points higher than its starting point. This pattern of high volatility, unlike the steady decline in employment, suggests sensitivity to factors like commodity prices, weather, and policy changes. The trend in industry value-added fell from a high of 39.25% in 1981 to 29.65% in 2024. The decline was not uniform, with notable recoveries in the mid-1990s and late 2010s. The trend also showed that service value-added soared from 47.52% in 1981 to 58.12% in 2015, ending at 47.04% in 2024. Services solidified their role as the largest contributor to GDP, particularly accelerating after 2000. The sharp contraction after 2015 is the counterpart to the revival of industry. Despite this recent decline, service value-added remains the largest sector. Crucially, its value-added share (47%) is very close to its employment share (48%), suggesting balanced productivity in this sector.

Diagnostics and Regression Results

Unit Root Tests and Model Diagnostics

The ADF unit root shows that the variables (all in growth rates) are stationary at levels. This implies that the statistical properties of the variables, such as their mean, variance, and autocorrelation structure, do not depend on time. Hence, there is no need for cointegration tests. Hence, the standard least squares (OLS) is used as a key technique to estimate the three-equation model to avoid the risk of a spurious regression. It is essential that the diagnostics of the three-equation model are conducted. The diagnostics show the F-test, normality test, autocorrelation test, heteroscedasticity test, and the adjusted R-squared test. The F-statistic coefficients of -90.000, 11.9646, and 146.3326 show that the equations in the model are significant at the 5% level. The Jarque-Bera statistics of 5.02, 4.81, and 2.13 show that the equations are normally distributed. The Durbin-Watson statistics of 1.67, 1.56, and 1.67 show that there are no serial correlations in errors in the equations. The White heteroscedasticity test shows equal spread in the error variances of the equations. The adjusted R-squares show that

the variations of the independent variables in the dependent variables are 89% for equation 5, 50% for equation 6, and 93% for equation 7.

Table 1.

Augmented Dickey-Fuller Unit Root Test				
Variables	**Levels**	**1st Diff**	**2nd Diff**	**Remark**
EAGR	-3.7079			Stationary at Level
EIND	-3.6859			Stationary at Level
ESER	-5.6319			Stationary at Level
AGVA	-6.3107			Stationary at Level
INDVA	-6.1108			Stationary at Level
SERVA	-5.1169			Stationary at Level
SAP				Dummy
GFCF	-4.4411			Stationary at Level
EXR	-3.9488			Stationary at Level
Regression Results for the Three Sectors				
Variables	**EAGR**	**EIND**	**ESER**	**Remark**
Constant	3.3228	1.7797		
AGVA	0.2445			Significant at 1%
INDVA		0.2193		Significant at 10%
SERVA			0.3583	Significant at 1%
SAP	0.0798	-0.2676	-0.0093	
GFCF	0.001	-0.1746	0.0584	
EXR	-0.088	0.0867	0.0581	
Diagnostics				
F-Test	-90.0002	11.9646	146.3326	significant
Normality	10.0205	4.8075	2.128	Normally distributed
Autocorrelation	1.67	1.56	1.67	No Autocorrelation
Heteroscedasticity	5.7471	5.3686	8.5504	Homoskedastic
Adjusted R-Squared	0.8922	0.5049	0.9311	

Source: E-views 13.0

Regression Results and Discussion

The Agricultural Sector: Resilient but Low-Productivity Employment

The estimated short-run employment elasticity for the agricultural sector is 0.245 and is statistically significant at the 1% level. This indicates that a 1 percentage point increase in the annual growth rate of agricultural value-added is associated with a 0.245 percentage point increase in the growth rate of agricultural employment. While statistically robust, this elasticity is moderate in magnitude, suggesting that agricultural growth has a limited capacity to generate large-scale employment gains. This finding is consistent with the sector's well-documented challenges of low productivity, informality, and underemployment.

The coefficient on the Official Exchange Rate is negative and highly significant (-0.088, p=0.000). This implies that an appreciation of the Naira (a decrease in the exchange rate) is associated with increased agricultural employment growth. This counterintuitive result likely reflects Nigeria's import-dependent agricultural system, where a stronger currency reduces the cost of critical imported inputs such as fertilizers, pesticides, and machinery, thereby supporting farm-level production and labor demand. The dummy variable for the post-

Structural Adjustment Program period shows a marginally positive effect (0.080, p=0.058), suggesting that the liberalization policies initiated in 1986 may have had a weakly beneficial impact on agricultural employment, possibly through the removal of marketing board constraints and producer price controls. Notably, growth in Gross Fixed Capital Formation has no statistically discernible impact on agricultural employment (coefficient: 0.001, p=0.977), underscoring the sector's low capital intensity and the limited trickle-down of economy-wide investment into on-farm job creation.

The Industrial Sector: The Epitome of Jobless Growth

The results for the industrial sector offer the most direct evidence of Nigeria's structural transformation malaise. The estimated employment elasticity is 0.219, the lowest among the three sectors, and is only marginally significant at the 10% level (p=0.086). This weak and statistically fragile relationship between industrial output growth and employment generation is the hallmark of "jobless growth." It indicates that the industrial sector, which historically acts as the primary engine for productive mass employment during structural transformation, has failed to play this role in Nigeria. The analysis reveals powerful policy and structural drivers behind this failure. The coefficient on the SAP dummy is -0.268 and is highly significant (p=0.000). This robust finding indicates that the trade and market liberalization reforms enacted from 1986 onward were associated with a substantial contraction in industrial employment growth. This aligns with theories of premature deindustrialization, whereby developing countries open their markets before domestic industries become competitive, leading to deindustrialization via import competition and factory closures. Mirroring the agricultural sector, the exchange rate coefficient is negative and significant (-0.087, p=0.000), suggesting industrial employment also benefits from a stronger Naira. This further corroborates the depth of Nigeria's import dependence, not just for consumer goods but for the intermediate inputs and capital goods required by its manufacturing base. A stronger currency acts as a lifeline for these vulnerable industries by lowering input costs. Most revealing is the negative and significant coefficient on GFCF growth (-0.175, p=0.014). This implies that increases in economy-wide investment are associated with declines in industrial employment growth. These finding points squarely to the capital-intensive, labor-saving nature of investment in Nigeria, which is heavily skewed towards extractive industries (like oil and gas) and large-scale infrastructure. Rather than creating factory jobs, investment appears to substitute capital for labor within the industrial sector, deepening the jobless growth phenomenon.

The Services Sector: A Leading but Ambiguous Role

In stark contrast to industry, the services sector exhibits the strongest output-employment linkage, with an elasticity of 0.358 (p=0.000). A 1% increase in services value-added growth is associated with a 0.36% increase in services employment growth. This elasticity is not only the highest but also the most statistically robust among the three sectors, confirming services as the dominant contributor to employment generation in contemporary Nigeria. However, the drivers of this employment growth differ fundamentally from those of the other sectors and warrant nuanced interpretation. Unlike agriculture and industry, the services sector responds positively to currency depreciation (coefficient: 0.058, p=0.000). This suggests its employment

dynamics are less tied to imported input costs and may be more closely linked to domestic demand and non-tradable activities. Furthermore, growth in GFCF has a positive and significant effect on services employment (0.058, p=0.036), indicating that investment in Nigeria is more likely to create jobs in services—such as construction, trade, and finance—than in industry. The SAP program had no statistically significant impact on service employment (coefficient: -0.009, p=0.753), indicating this sector was relatively insulated from the trade shocks that severely impacted manufacturing.

While the high employment elasticity of services may appear positive, it must be contextualized within the Structural Transformation Paradox. The dominant role of services precedes the maturation of a robust industrial sector, representing a deviation from the classical development path. Much of this service employment is likely concentrated in low-productivity, informal activities (e.g., petty trade, subsistence services) that act as an "employer of last resort" rather than in high-productivity, knowledge-intensive services. Therefore, the sector's leading role in job creation may signify a symptom of a distorted transformation—absorbing labor displaced from agriculture and failed industries—rather than a sign of healthy, inclusive development. The comparative analysis of these sectoral results provides clear evidence for the existence of a Structural Transformation Paradox in Nigeria. This paradox is characterized by three interlocking distortions:

1. **A Weak Industrial Engine:** The industrial sector exhibits the faintest link between growth and jobs (elasticity: 0.219), which is the core of the jobless growth dilemma. It was significantly harmed by liberalization (SAP: -0.268) and absorbed investment in labour-displacing ways (GFCF: -0.175).
2. **A Distorted Sectoral Sequence:** The services sector (elasticity: 0.358) has emerged as the primary job creator, usurping the role traditionally held by industry. This represents a "premature" shift to services-led growth, bypassing the critical stage of labor-intensive industrialization.
3. **Policy-Induced Distortions:** The significant and varied coefficients on the exchange rate and SAP dummy confirm that macroeconomic and trade policies have not been neutral. They have actively shaped sectoral outcomes, with exchange rate management offering a precarious subsidy to import-dependent tradable sectors and trade liberalization dealing a severe blow to manufacturing employment.

Conclusion

This study set out to investigate the structural transformation paradox in Nigeria by conducting a sectoral analysis of employment elasticities in agriculture, manufacturing, and services from 1981 to 2024. The key findings confirm the paradox: agriculture exhibits the highest employment elasticity but remains trapped in low-productivity subsistence farming; manufacturing shows critically low and declining elasticity, epitomizing jobless growth and premature de-industrialization; and the services sector plays a leading but ambiguous role, generating the most jobs, yet largely in low-productivity informal activities that function as an employer of last resort. Policy shocks, particularly the Structural Adjustment Programme and exchange rate dynamics, have actively shaped these distorted outcomes.

The study's primary contribution to knowledge is empirical: it provides a four-decade longitudinal diagnosis of employment elasticities across Nigeria's three core sectors, directly testing the relevance of Rodrik's premature de-industrialisation thesis in the Nigerian context. It also offers a nuanced disaggregation of the services sector's dualistic nature, moving beyond aggregate analyses that mask internal contradictions. However, the study has limitations. It relies exclusively on aggregate WDI data, which may obscure sub-sectoral heterogeneity and dynamics in the informal economy. The employment elasticities estimated are short-run in nature, and the study does not control for all possible supply-side factors, such as labour force skills or demographic transitions. Despite these limitations, the study confirms that growth without employment is not development, and that Nigeria's distorted transformation pathway requires urgent empirical attention to unlock its demographic potential.

Based on the findings, the study recommended the following:

1. Industrial policy in Nigeria should be explicitly designed around employment generation rather than output growth alone. The government should provide targeted tax incentives, subsidies, and infrastructure support to labour-intensive manufacturing subsectors, particularly small-scale agro-processing and light manufacturing firms that demonstrate high capacity to absorb employment.
2. Given that both agriculture and industry depend on imported inputs, the government should consider a preferential or dual exchange rate mechanism for critical productive inputs such as fertilisers, machinery, and spare parts, thereby shielding employment-sensitive sectors from the full impact of currency depreciation while allowing luxury and non-essential imports to face market-determined rates.
3. Recognising that services generate the most employment but largely in low-productivity activities, policies should focus on formalisation, skills development, and enterprise support. Targeted training programmes in technology, finance, healthcare, and logistics can help transition informal workers into higher-value service roles, while micro-enterprise support can facilitate graduation into formal, stable employment.
4. Current investment patterns show that capital formation is associated with job losses in industry. Investment codes and incentive regimes should be reformed to reward projects that demonstrate high labour absorption, including preferential loans, tax holidays, and accelerated depreciation for technologies that complement rather than replace labour, alongside disincentives for excessive capital-deepening in labour-abundant sectors.

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