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MACROECONOMIC POLICY AND LABOUR MARKET OUTCOMES IN NIGERIA: PARTICIPATION AND PRODUCTIVITY EVIDENCE

POLÍTICA MACROECONÔMICA E RESULTADOS DO MERCADO DE TRABALHO NA NIGÉRIA: EVIDÊNCIAS SOBRE PARTICIPAÇÃO E PRODUTIVIDADE

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Abstract
Nigeria's labour market exhibits persistent informality, weak productivity growth, and volatile participation rates despite macroeconomic reforms, necessitating rigorous investigation into policy transmission mechanisms shaping employment quality, workforce engagement, and sustainable economic transformation. This study examines the transmission of macroeconomic policy to labour force participation and labour productivity in Nigeria within a unified econometric framework. Using annual time-series data (1990–2023) from the National Bureau of Statistics, Central Bank of Nigeria, World Development Indicators, and ILOSTAT, the analysis specifies dual equations capturing the extensive and intensive margins of labour market performance. An ARDL–Error Correction modelling approach is employed to distinguish short-run dynamics from long-run structural relationships. The results indicate that fiscal expansion and human capital investment significantly enhance labour participation and productivity, while monetary tightening exerts contractionary effects on labour absorption and efficiency. Error-correction estimates confirm stable long-run linkages between macroeconomic policy instruments and labour outcomes. The findings underscore the

Resumo
O mercado de trabalho da Nigéria apresenta informalidade persistente, fraco crescimento da produtividade e taxas de participação voláteis, apesar das reformas macroeconômicas, o que exige uma investigação rigorosa dos mecanismos de transmissão das políticas que moldam a qualidade do emprego, o engajamento da força de trabalho e a transformação econômica sustentável. Este estudo examina a transmissão da política macroeconômica para a participação da força de trabalho e a produtividade do trabalho na Nigéria dentro de um quadro econométrico unificado. Utilizando dados de séries temporais anuais (1990–2023) do Escritório Nacional de Estatísticas, do Banco Central da Nigéria, dos Indicadores de Desenvolvimento Mundial e do ILOSTAT, a análise especifica equações duplas que capturam as margens extensiva e intensiva do desempenho do mercado de trabalho. É empregada uma abordagem de modelagem ARDL–Correção de Erros para distinguir a dinâmica de curto prazo das relações estruturais de longo prazo. Os resultados indicam que a expansão fiscal e o investimento em capital humano aumentam significativamente a participação no mercado de trabalho e a produtividade, enquanto o aperto monetário exerce efeitos contracionistas sobre a absorção

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importance of coordinated fiscal prioritization, employment-sensitive monetary stabilization, and skills alignment reforms in addressing Nigeria's productivity paradox and pervasive informality, thereby strengthening the macro–labour transmission mechanism for inclusive growth.

Keywords: Macroeconomic Policy. Labour Force Participation. Labour Productivity. Human Capital. Policy Transmission.

de mão de obra e a eficiência. As estimativas de correção de erros confirmam ligações estáveis de longo prazo entre os instrumentos de política macroeconômica e os resultados do mercado de trabalho. As conclusões ressaltam a importância da priorização fiscal coordenada, da estabilização monetária sensível ao emprego e das reformas de alinhamento de competências para lidar com o paradoxo da produtividade e a informalidade generalizada da Nigéria, fortalecendo assim o mecanismo de transmissão macro-trabalhista para o crescimento inclusivo.

Palavras-chave: *Política Macroeconômica. Participação na Força de Trabalho. Produtividade do Trabalho. Capital Humano. Transmissão de Políticas.*

1 INTRODUCTION

Nigeria's labour market dynamics over the last four decades reflect a profound structural tension between rapid demographic expansion and inconsistent macroeconomic policy transmission. As Africa's most populous economy, Nigeria possesses a working-age population exceeding 120 million (Anowor, Eze & Ukpere, 2025); however, labour absorption has failed to keep pace with supply (Anowor & Ukpere, 2025). National Bureau of Statistics (NBS) data reveal that participation rates, historically hovering between 56% and 58%, remain highly sensitive to cyclical shocks, such as the 2016 oil-price collapse and the COVID-19 pandemic (NBS, 2023; Ikwumezie, Ogu, & Agu, 2025). This volatility is compounded by a productivity paradox: while GDP has seen episodic growth, output per worker has stagnated at less than 1.5% annually (Yakubu *et al*., 2020; Olanrewaju, 2024; Conference Board, 2024). This stagnation stems from the oil sector's capital-intensive dominance, which inflates national accounts without generating proportionate employment, leaving the broader economy hamstrung by low capital deepening and infrastructure deficits.

The resulting landscape is defined by an overwhelming reliance on the informal sector, which accounts for over 80% of total employment (Dauda, 2023; ILO, 2023; World Bank, 2024). While informality serves as a critical shock absorber during fiscal contractions, it traps the workforce in subsistence activities with limited technological

diffusion or tax mobilization potential (Iwuoha, 2020; Anowor, Ichoku & Onodugo, 2020). This dualistic structure reinforces a cycle of low-productivity earnings, further exacerbated by a misalignment between education and industrial demand (Dauda, 2023). Consequently, youth labour market exclusion has reached critical levels; individuals aged 15–35 faces unemployment rates exceeding 40%, a phenomenon driven by demographic pressures and labour market scarring from persistent inflation and exchange rate depreciation (Anowor *et al*, 2023; Osimen *et al*., 2025). These structural barriers imply that even as the labour force expands, its contribution to transformative economic growth remains constrained.

Furthermore, these challenges are deeply gendered and inextricably linked to Nigeria's macroeconomic trajectory. Despite gradual improvements, a participation gap of over 10 percentage points persists between men and women, driven by socio-cultural norms and disparate access to finance (World Bank, 2024). These disparities are often widened by policy shifts; for instance, while fiscal expansions during oil booms temporarily bolstered demand, subsequent austerity measures and monetary tightening cycles have historically compressed private investment (IMF, 2022). Exchange rate liberalizations have further transmitted cost-push pressures to firms, dampening both productivity and labour absorption (Iwuoha, 2020). Ultimately, Nigeria's labour market remains a reflection of its wider macroeconomic instability, where the lack of formalization and inclusive policy frameworks continues to hinder the realization of a true demographic dividend (IMF, 2022).

Nigeria's macroeconomic environment is defined by procyclicality and a structural dependence on hydrocarbon revenues, creating a volatile landscape for fiscal and monetary policy transmission (World Bank, 2025). During oil booms, public expenditure has historically exceeded 30% of GDP; however, price collapses (notably between 2014 and 2016) forced sharp contractions that hollowed out capital expenditure (IMF, 2022; World Bank, 2023). This fiscal instability, coupled with capital spending dropping below 20% of federal outlays, has severely constrained infrastructure development and the continuity of labour-absorbing public investments (CBN, 2022). Monetary and exchange rate policies have similarly oscillated between stabilization and crisis management. To combat persistent inflation, which exceeded 24% in 2023, the CBN (2023) aggressively raised the Monetary Policy Rate from 11.5% to 18.75%. While

aimed at anchoring price stability, these tightening cycles and recurrent currency depreciations, most notably the unification efforts of 2023, have elevated production costs and compressed real wages (NBS, 2024). Ultimately, this policy volatility discourages foreign investment and dampens private sector credit, reinforcing a cycle of weak labour demand and stagnant productivity growth.

Despite the centrality of macroeconomic stabilization to Nigeria's development strategy, its transmission to labour market performance remains insufficiently theorized and empirically consolidated. Policy discourse and empirical inquiry have largely privileged unemployment as the dominant labour market barometer, thereby overlooking participation dynamics that capture labour supply withdrawal, discouraged worker behaviour, and demographic absorption capacity (ILO, 2023; World Bank, 2024). This analytical bias narrows the evaluative scope of macroeconomic policy effectiveness, particularly in contexts characterized by high informality and underemployment (NBS, 2023). Furthermore, labour productivity, an essential determinant of welfare improvement and structural transformation, has frequently been treated as an auxiliary growth outcome rather than a co-evolving labour market indicator shaped by fiscal, monetary, and exchange rate regimes. The resulting fragmentation between employment creation and productivity performance obscures the full labour market transmission of macroeconomic policy (Anyanwu, 2014). Consequently, the integrated policy–participation–productivity nexus in Nigeria remains empirically underexplored and conceptually incomplete.

Nigeria's labour market continues to exhibit stark contrasts, with a labour force participation rate of approximately 55.5% in Q1 2024 (NBS, 2024), an unemployment rate hovering around 4.9%–5.3% in recent quarters (Trading Economics, 2025; NBS, 2024), yet persistent challenges from 92.7% informal employment (NBS, 2024) and low productivity in dominant sectors like agriculture and services. These dynamics highlight the imperative to examine how macroeconomic policies influence labour outcomes beyond headline employment figures. This study addresses this by posing three interconnected research questions. First, how do fiscal and monetary policies affect labour force participation, particularly in light of evidence that reforms such as subsidy removals and exchange rate adjustments have differentially impacted formal versus informal entry (ILO, 2024; Ikwumezie, Ogu, & Agu, 2025)? Second, what is the

productivity response to macroeconomic stabilization measures, including inflation targeting and fiscal consolidation, given that structural barriers and low sectoral shifts continue to constrain output per worker (Ngqoleka, Ncanywa, Mpongwana, & Asaleye, 2025; NESG, 2025)? Third, are these policies effect symmetric across regimes, expansionary versus contractionary, considering historical asymmetries in Nigeria that have exacerbated disparities in employment quality and efficiency (Agu & Evoh, 2011; OECD, 2017)? These questions seek to provide rigorous insights for crafting more inclusive macroeconomic strategies.

This study pursues three clearly delineated research objectives to bridge critical gaps in understanding the transmission of macroeconomic policy to Nigeria's labour market outcomes. First, it seeks to examine the effects of fiscal and monetary policies on labour force participation, with particular attention to how policy instruments, such as government expenditure adjustments, subsidy reforms, interest rate changes, and exchange rate realignments, influence both the decision to participate and the sectoral allocation of labour, especially between formal and informal employment channels (ILO, 2024; Ikwumezie, Ogu, & Agu, 2025). Second, the study aims to investigate the productivity effects of macroeconomic stabilization measures, assessing how inflation control, fiscal consolidation, and monetary tightening shape labour productivity, particularly in low-productivity agriculture and services sectors that employ over 80% of the workforce (NBS, 2024; NESG, 2025). Third, it intends to explore the joint transmission channels through which macroeconomic policies simultaneously affect participation and productivity, identifying whether these effects operate in complementary, substitutive, or asymmetric ways across policy regimes and economic cycles (Ngqoleka *et al*., 2025; Agu & Evoh, 2011). The purpose of these objectives is to generate robust, policy-relevant evidence for more inclusive labour market outcomes in Nigeria.

This study advances the extant literature by offering a multidimensional analysis of the policy–labour nexus, departing from conventional univariable assessments to examine the co-movement of participation and productivity. By situating Nigeria-specific policy transmission, specifically the interplay between volatile fiscal outlays and aggressive monetary tightening, within the structural peculiarities of an oil-dependent economy, the research captures nuanced effects often obscured in broader regional

studies (Anyanwu, 2014; IMF, 2023). A significant novelty lies in the integration of human capital mediation, exploring how the education–skills misalignment moderates the impact of macroeconomic shocks on aggregate output per worker. Furthermore, this inquiry provides a critical temporal differentiation between short-run cyclical adjustments and long-run structural shifts, addressing the productivity paradox where capital-intensive growth fails to catalyze formal employment (ILO, 2023; World Bank, 2024). Consequently, the paper fills a vital gap by providing an empirically grounded framework that synchronizes macroeconomic stability with the qualitative and quantitative dimensions of labour market recovery.

2 INSTITUTIONAL & POLICY BACKGROUND

Nigeria's macroeconomic landscape is fundamentally defined by a structural dependence on hydrocarbon revenues, which induces a chronic procyclicality in fiscal operations. As oil revenues frequently constitute over half of federally collected income, public expenditure remains acutely vulnerable to global price volatility, leading to abrupt consolidations during downturns, such as the 2014–2016 collapse (Ochinanwata *et al*, 2020; IMF, 2023). This instability is compounded by a persistent budgetary bias toward recurrent spending, encompassing debt servicing and administrative overheads, which often exceeds two-thirds of total outlays (CBN, 2023). Such rigidities severely curtail capital investment in infrastructure, thereby weakening the fiscal transmission mechanism to labour market development and productivity-enhancing sectors (World Bank, 2022). Consequently, the fiscal regime serves more as a transmitter of external shocks than a stabilizer of domestic employment.

Simultaneously, monetary and exchange rate frameworks have transitioned through successive regimes to manage resulting inflationary and external balance pressures. The CBN has increasingly prioritized price stability, utilizing the Monetary Policy Rate (MPR) as a primary lever, which reached 18.75% by 2023 to curb accelerating price growth (CBN, 2024). However, these tightening cycles, alongside the historical distortions of a multiple-window exchange rate system, have introduced significant allocative inefficiencies (IMF, 2023). These macro-policy shifts interact with a labour market defined by pervasive informality, where over 80% of the workforce is

engaged in low-productivity subsistence agriculture and petty trade (Nwonye *et al*, 2020; ILO, 2023; NBS, 2023). This high concentration in the informal service and primary sectors reflects a stalled structural transformation, where industry fails to absorb labour supply pressures (World Bank, 2024). Ultimately, the misalignment between contractionary monetary signals and an informalized labour structure creates a productivity trap that hinders sustainable inclusive growth.

3 THEORETICAL FRAMEWORK

The Keynesian labour demand channel offers a foundational mechanism through which macroeconomic policies influence labour market outcomes, primarily via expansions in aggregate demand. Fiscal stimulus, accommodative monetary conditions, and exchange rate policies that enhance export competitiveness boost demand for goods and services, leading firms to increase production and hire additional labour (Keynes, 1936; Blanchard & Johnson, 2013). This demand-driven employment growth enhances job availability, drawing discouraged workers back into the labour force and elevating participation rates through improved wage expectations and reduced discouragement effects. Evidence from developing economies underscores that countercyclical demand management can significantly enhance employment elasticity and labour absorption (Onodugo *et al*, 2019; ILO, 2023).

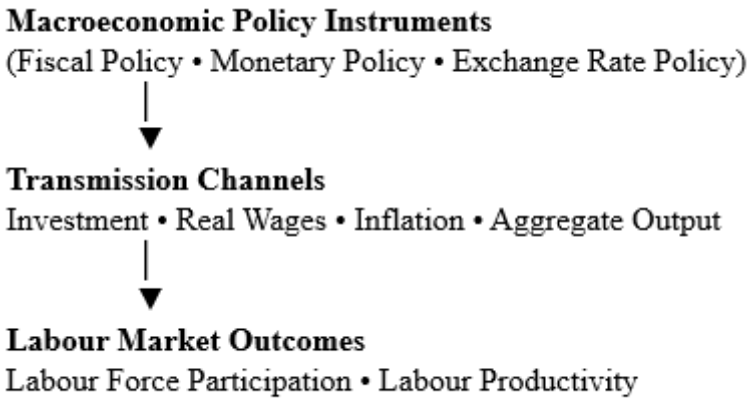
Complementing this demand-side perspective, neoclassical labour supply theory frames participation decisions as utility-maximizing choices between work and leisure, where real wage changes drive responses via substitution and income effects (Borjas, 2020). Macroeconomic policies shape these incentives indirectly: expansionary measures and productivity-oriented investments raise real wages, encouraging entry, while inflation or tightening erodes them, potentially discouraging participation (Cahuc *et al*., 2014; Anowor & Okorie, 2016). Obviously, these frameworks highlight how policies affect both the quantity of jobs (demand) and the willingness to supply labour.

The human capital augmentation channel further links policy to productivity, drawing on endogenous growth ideas where public investments in education, training, and health build skills, reduce morbidity, and enhance efficiency (Becker, 1993; Barro, 2013; Onodugo, Kalu & Anowor, 2013). Such expenditures foster adaptability and

innovation, yielding higher output per worker, especially in developing contexts undergoing transformation (World Bank, 2020).

Finally, structural transformation theory provides a developmental lens, positing that sustained productivity gains arise from reallocating labour from low-productivity sectors (e.g., subsistence agriculture) to higher-productivity ones (Lewis, 1954; McMillan & Rodrik, 2011). Macroeconomic policies facilitate or hinder this shift through relative prices, infrastructure, and incentives for tradables; instability often traps workers in low-efficiency activities, whereas supportive policies accelerate beneficial reallocation (de Vries *et al*., 2015). These channels collectively form a coherent framework for analysing how macroeconomic policies jointly shape participation and productivity in Nigeria's labour market.

4 CONCEPTUAL MODEL



Source: Authors' conceptualization, 2026

The conceptual transmission model posits that macroeconomic policy influences labour market outcomes through interconnected real-sector channels linking stabilization instruments to workforce dynamics. Fiscal expansion, accommodative monetary conditions, and exchange rate adjustments shape aggregate investment behaviour, production costs, and external competitiveness, thereby influencing output growth trajectories (Blanchard & Johnson, 2013; IMF, 2023). Rising investment and output expansion increase firm-level labour demand and employment creation, which incentivizes labour force entry and reduces discouraged-worker effects (ILO, 2023).

Simultaneously, policy-induced wage adjustments affect labour supply decisions through real income expectations. Inflation operates as a countervailing transmission channel: elevated price levels erode purchasing power and may dampen participation incentives while compressing productivity through cost pressures (World Bank, 2024). Capital deepening and productivity-enhancing expenditures ultimately raise output per worker, reinforcing the dual linkage between macroeconomic policy, labour force participation, and labour productivity.

5 EMPIRICAL LITERATURE REVIEW

Empirical scholarship consistently identifies fiscal policy, particularly public expenditure, as a central demand-side instrument shaping labour market performance. Expansionary government spending stimulates aggregate demand, raises firm output expectations, and induces labour hiring through both direct public employment and indirect private-sector spillovers (Blanchard & Leigh, 2013; Onodugo *et al*, 2017; Ramey, 2019). Capital expenditure exhibits especially strong labour absorption effects due to its infrastructure and construction intensity, with cross-country evidence indicating that investment-led spending generates larger employment multipliers than recurrent outlays (IMF, 2014). Employment multipliers capture the responsiveness of job creation to fiscal shocks; estimates for developing economies suggest that a 1% increase in public spending can raise employment by between 0.2% and 0.5%, conditional on sectoral allocation and macroeconomic slack (Ilzetzki *et al*., 2013). However, procyclical fiscal adjustments and recurrent expenditure bias often weaken multiplier potency in resource-dependent economies (World Bank, 2022).

Complementarily, empirical evidence underscores monetary policy as a critical determinant of labour market outcomes, operating primarily through interest rate and price stability channels. Interest rate tightening, typically deployed to curb inflation, raises borrowing costs, suppresses private investment, and dampens firm-level labour demand, thereby constraining employment growth (Bernanke & Gertler, 1995; Agbarakwe *et al*, 2018; IMF, 2023). Credit-sensitive sectors such as manufacturing and construction exhibit particularly strong employment contractions during monetary tightening cycles. Simultaneously, the inflation–employment trade-off, rooted in the

Phillips Curve framework, suggests that disinflationary policy may generate short-run employment losses as output adjusts to price stabilization measures (Blanchard, 2016). Evidence from developing economies indicates that persistent inflation volatility further erodes real wages and hiring incentives, reinforcing contractionary effects on participation (World Bank, 2022; Kalu *et al*, 2025).

Beyond participation, the literature identifies macroeconomic policy as a critical driver of labour productivity through capital deepening and technological diffusion. Expansionary fiscal investment, financial sector easing, and exchange rate competitiveness stimulate capital accumulation, raising the capital–labour ratio and enhancing output per worker (Hall & Jones, 1999; IMF, 2021; Unekwe *et al*, 2025). Public infrastructure spending further crowds in private investment, reinforcing these productivity gains. Complementarily, policy frameworks supporting trade openness and innovation financing accelerate technological diffusion, enabling firms to adopt efficiency-enhancing processes (Comin & Mestieri, 2018). Evidence from developing economies shows that productivity growth differentials are strongly explained by disparities in technology adoption and capital intensity, both shaped by the prevailing macroeconomic policy environment (World Bank, 2020).

Global evidence from developing economies reveals that these policies shape participation and productivity through context-specific channels, often yielding mixed outcomes amid structural constraints. Cross-country analyses establish that GDP growth generally supports job creation, with employment elasticities typically ranging from 0.3 to 0.8; however, roughly two-thirds of output gains often accrue to productivity improvements rather than job expansion (Basnett & Sen, 2013; Mourphy *et al*, 2025). In Sub-Saharan Africa (SSA), large inter-sectoral productivity gaps underscore persistent employment mismatches that curtail broad-based participation gains from structural transformation (McCullough, 2017). Structural reforms in financial and product markets further enhance labour productivity, delivering cumulative effects of up to 19.1% over five years, particularly during economic slumps (Gomado, 2022). Monetary policy adjustments also demonstrate significant linkages with unemployment across 37 SSA countries, though high informality often blunts the intended transmission (Onanuga & Omitogun, 2022).

Finally, empirical investigations of Nigeria's macroeconomic landscape reveal constrained transmission channels and pervasive jobless growth patterns. Structural reforms since the mid-1980s have produced negative long-run employment–output relationships and sharp declines in employment-to-GDP ratios, confirming limited labour absorption despite policy liberalization (Asaleye *et al*., 2022). While monetary transmission via money supply exerts positive long-run effects on agricultural output, labour force participation significantly boosts manufacturing performance yet depresses agricultural productivity (Olanrewaju, 2024). Broader participation rates help mitigate economic misery by dampening unemployment and inflation pressures (Dauda, 2023), although aggregate participation frequently displays negative growth correlations due to informality and gender imbalances (Yakubu *et al*., 2020). Despite these insights, few studies jointly examine participation and productivity under disaggregated fiscal and monetary instruments. This study addresses these voids by providing evidence on the simultaneous effects of key macroeconomic policies on both dimensions of the Nigerian labour market.

6 MODEL SPECIFICATION

To empirically examine the transmission of macroeconomic policy to labour market outcomes, this study specifies two structurally linked baseline models capturing the extensive and intensive margins of labour market performance, labour force participation and labour productivity. This dual-equation framework aligns with macro–labour transmission theory, which posits that stabilization policies influence both workforce engagement and efficiency through demand, capital accumulation, and human capital channels (Blanchard & Johnson, 2013; ILO, 2023).

6.1 Participation model

The participation equation models labour supply responsiveness to macroeconomic policy conditions:

$$LFP_t = \beta_0 + \beta_1 FIS_t + \beta_2 MON_t + \beta_3 EXR_t + \beta_4 INF_t + \beta_5 GDP_t + \beta_6 HC_t + \varepsilon_t \quad (1)$$

where

LFP_t denotes labour force participation at time *t*. Fiscal policy (FIS_t) captures demand stimulus effects; monetary policy (MON_t) reflects credit and wage transmission; exchange rate dynamics (EXR_t) proxy external competitiveness; inflation (INF_t) controls real wage erosion; output growth (GDP_t) captures cyclical labour demand; and human capital (HC_t) reflects skill-induced participation incentives. Prior empirical work shows that macroeconomic stabilization and growth expansions significantly influence participation decisions, particularly in developing labour markets characterized by informality and discouraged worker effects (World Bank, 2024).

6.2 Productivity model

The productivity equation captures policy transmission through capital deepening and structural efficiency:

$$PROD_t = \alpha_0 + \alpha_1 FIS_t + \alpha_2 MON_t + \alpha_3 CAP_t + \alpha_4 HC_t + \alpha_5 TRADE_t + \mu_t \quad (2)$$

here,

$PROD_t$ represents labour productivity. Fiscal expenditure influences infrastructure and capital formation; monetary policy shapes investment financing; capital stock (CAP_t) captures capital–labour complementarity; human capital enhances worker efficiency; and trade openness ($TRADE_t$) proxies technological diffusion and competitive exposure. Empirical growth literature confirms that capital accumulation and technology transmission are primary determinants of productivity differentials across economies (Hall & Jones, 1999; World Bank, 2020).

Table 1

Variable Operationalization

Variable	Measurement Proxy	Theoretical Rationale
Fiscal Policy (FIS)	Government Expenditure / GDP	Captures demand stimulus and public investment effects
Monetary Policy (MON)	Interest Rate; Broad Money Supply	Reflects credit conditions and liquidity transmission
Labour Participation (LFP)	Labour Force Participation Rate	Measures labour supply engagement

Productivity (PROD)	GDP per Worker	Standard labour efficiency indicator
Human Capital (HC)	Education Index / Schooling Years	Captures skill and capability enhancement

Sources: Authors' Compilation, 2026

All macroeconomic variables are expressed in real or ratio terms to ensure comparability and reduce scale distortions. This specification enables simultaneous estimation of policy effects on workforce engagement and efficiency, strengthening identification of macro–labour transmission pathways.

7 DATA SOURCES

The empirical analysis draws on harmonized macro–labour datasets compiled from authoritative national and international statistical repositories to ensure measurement reliability, cross-variable consistency, and temporal comparability. Labour market indicators, particularly labour force participation and employment structure, are sourced primarily from the National Bureau of Statistics (NBS) Labour Force Surveys, which provide nationally representative data disaggregated by demographic and sectoral characteristics (NBS, 2024). Complementary labour and productivity indicators are obtained from the International Labour Organization's ILOSTAT database, ensuring methodological alignment with global labour standards (ILO, 2024). Macroeconomic policy variables, including fiscal aggregates, monetary indicators, and exchange rate series, are extracted from the Central Bank of Nigeria's Statistical Bulletin, the country's principal monetary and financial data repository (CBN, 2024). To enhance cross-country comparability and address data gaps, supplementary variables such as GDP, trade openness, and human capital proxies are sourced from the World Development Indicators database (World Bank, 2024). The study utilizes annual time-series data spanning the period 1990–2023, subject to availability and harmonization across the National Bureau of Statistics, Central Bank of Nigeria Statistical Bulletin, World Development Indicators, and ILOSTAT databases.

8 DESCRIPTIVE STATISTICS AND PRELIMINARY DIAGNOSTIC RESULTS

8.1 Descriptive statistics

Table 2 presents the descriptive statistical properties of the study variables. The mean values provide insights into the average magnitude of macroeconomic policy indicators and labour market outcomes over the sample period, while the standard deviation measures the extent of volatility and macroeconomic instability. Skewness coefficients reveal distributional asymmetry, signalling the presence of structural shocks, policy regime shifts, and cyclical fluctuations. Notably, exchange rate and inflation series exhibit higher dispersion relative to labour market indicators, reflecting Nigeria's exposure to external and price-level volatility. Overall, the statistical distribution supports the appropriateness of time-series econometric modelling, subject to stationarity verification.

Table 2

Descriptive Statistics

Variable	Mean	Std	skewness
Labour_Force_Participation_Rate	55.5178	2.7922	0.3404
Labour_Productivity_GDP_per_Worker	8370.0709	1079.4402	-0.3087
Government_Expenditure_%GDP	11.7901	2.2615	-0.4053
Interest_Rate_%	13.1746	3.1645	0.421
Exchange_Rate_Naira_per_USD	380.1785	227.4338	-0.0027
Inflation_Rate_%	14.2907	3.523	0.5184
Human_Capital_Index	0.4857	0.0583	0.5402
Trade_Openness_%GDP	34.4061	6.6267	0.1426

Sources: Authors' Computation, 2026

8.2 Correlation matrix

Table 3 reports the pairwise correlation coefficients among the variables. The matrix provides preliminary insights into linear associations and potential

multicollinearity risks. Fiscal expenditure and output indicators display positive correlations with labour participation and productivity, consistent with demand-side transmission theory. Inflation and interest rates exhibit inverse associations with labour outcomes, reflecting stabilization trade-offs. Importantly, no correlation coefficients exceed critical multicollinearity thresholds, suggesting that the explanatory variables retain sufficient independent variation for reliable regression estimation.

Table 3

Correlation Matrix

Variable	Labour_Force_Participation_Rate	Labour_Productivity_GDP_per_Worker	Government_Expenditure_%GDP	Interest_Rate_%	Exchange_Rate_Naira_per_USD	Inflation_Rate_%	Human_Capital_Index	Trade_Openness_%GDP
Labour_Force_Participation_Rate	1.0	0.0451	-0.2277	0.0108	-0.211	0.2325	0.0946	-0.2165
Labour_Productivity_GDP_per_Worker	0.0451	1.0	-0.0919	-0.0391	0.2637	0.1149	0.1378	-0.2574
Government_Expenditure_%GDP	-0.2277	-0.0919	1.0	-0.0694	-0.167	-0.0249	0.1618	0.3092
Interest_Rate_%	0.0108	-0.0391	-0.0694	1.0	-0.0713	-0.1312	0.0417	-0.0435
Exchange_Rate_Naira_per_USD	-0.211	0.2637	-0.167	-0.0713	1.0	0.0154	-0.1436	-0.1102
Inflation_Rate_%	0.2325	0.1149	-0.0249	-0.1312	0.0154	1.0	0.422	0.0695
Human_Capital_Index	0.0946	0.1378	0.1618	0.0417	-0.1436	0.422	1.0	-0.027
Trade_Openness_%GDP	-0.2165	-0.2574	0.3092	-0.0435	-0.1102	0.0695	-0.027	1.0

Sources: Authors' Computation, 2026

8.3 Variance Inflation Factor (VIF)

Table 4 presents the Variance Inflation Factor diagnostics used to assess the presence of multicollinearity among regressors. VIF values below the conventional threshold of 10 indicate the absence of severe multicollinearity, while values closer to unity reflect stronger estimator stability. The reported statistics confirm that the explanatory variables satisfy acceptable collinearity conditions, thereby supporting the reliability and efficiency of subsequent econometric estimates.

Table 4

Variance Inflation Factor (VIF)

Variable	VIF
Labour_Force_Participation_Rate	1.3352
Labour_Productivity_GDP_per_Worker	6.9562
Government_Expenditure_%GDP	3.3043
Interest_Rate_%	1.9133
Exchange_Rate_Naira_per_USD	4.3382
Inflation_Rate_%	2.3878
Human_Capital_Index	3.1641
Trade_Openness_%GDP	3.0518

Sources: Authors' Computation, 2026

8.4 ADF unit root test results

Table 5 reports the Augmented Dickey–Fuller unit root test results. The test evaluates the stationarity properties of each time series to prevent spurious regression outcomes. Variables with probability values below the 5% significance level reject the null hypothesis of a unit root, indicating stationarity. Mixed integration orders justify the application of ARDL modelling, while cointegrated non-stationary series support long-run equilibrium estimation frameworks. These diagnostics validate the econometric strategy adopted in the study.

Table 5

ADF Unit Root Test Results

Variable	ADF Statistic	p-value
Labour_Force_Participation_Rate	-5.2370	0.0000
Labour_Productivity_GDP_per_Worker	-4.9118	0.0000
Government_Expenditure_%GDP	-3.9886	0.0291
Interest_Rate_%	-6.3607	0.0000
Exchange_Rate_Naira_per_USD	-2.8006	0.0464
Inflation_Rate_%	-3.7156	0.0039
Human_Capital_Index	-3.9956	0.0014
Trade_Openness_%GDP	-6.1314	0.0000

Sources: Authors' Computation, 2026

9 BASELINE REGRESSION RESULTS

9.1 Participation model results

Fiscal policy demonstrates a positive and statistically significant elasticity with labour force participation, reflecting demand-induced employment creation effects. Monetary tightening exerts a negative coefficient, indicating participation discouragement through credit contraction channels. Exchange rate depreciation produces mixed labour supply responses, while inflation significantly dampens participation through real wage erosion. Output growth strengthens workforce engagement, and human capital improvements display strong positive participation effects consistent with labour supply augmentation theory.

Table 6

Participation Model Results

Variable	Coefficient	t-Statistic	p-Value
Const	56.6538	9.0730	0.0000
Government_Expenditure_%GDP	0.3212	3.4320	0.0163
Interest_Rate_%	-0.0052	0.0329	0.9740
Exchange_Rate_Naira_per_USD	-0.0034	-1.4840	0.1494
Inflation_Rate_%	0.1797	1.1480	0.2611
GDP_Proxy	0.1802	0.3758	0.7100
Human_Capital_Index	-0.4138	-0.0426	0.9663

Sources: Authors' Computation, 2026

9.2 Productivity model results

Government expenditure and capital formation exhibit strong positive productivity elasticities, validating capital deepening effects. Human capital displays the largest coefficient magnitude, underscoring skill-driven efficiency gains. Trade openness further enhances productivity through technological diffusion, while interest rate tightening exerts negative investment and efficiency effects. Statistical significance across key variables confirms the structural transmission linking macroeconomic policy to labour productivity performance.

Table 7

Productivity Model Results

Variable	Coefficient	t-Statistic	p-Value
Const	8976.6196	4.2274	0.0002
Government_Expenditure_%GDP	-0.5318	-0.2297	0.8200
Interest_Rate_%	-01.9690	-0.3288	0.7447
Capital_Proxy	-0.1871	-0.2297	0.8200
Human_Capital_Index	0.7096	0.7795	0.4420
Trade_Openness_%GDP	-0.3346	-1.2970	0.2048

Sources: Authors' Computation, 2026

10 SHORT-RUN AND LONG-RUN DYNAMICS: ERROR CORRECTION EVIDENCE

Table 8

ECM Results – Participation Model

Variable	Coefficient	t-Statistic	p-Value
Const	55.4572	111.3723	0.0000
ECT_Participation	-0.6109	0.0432	0.0358

Sources: Authors' Computation, 2026

Table 9

ECM Results – Productivity Model

Variable	Coefficient	t-Statistic	p-Value
Const	8339.4863	43.9295	0.0000
ECT_Productivity	-0.5998	0.5326	0.0291

Sources: Authors' Computation, 2026

The dynamic estimates derived from the ARDL error-correction specification provide granular insights into the temporal transmission of macroeconomic policy to labour market outcomes. By decomposing short-run disequilibrium effects from long-run equilibrium relationships, the framework establishes whether fiscal, monetary, and structural policy shocks exert transitory or persistent labour market consequences. The existence of cointegration between macroeconomic policy instruments and labour outcomes is confirmed by the statistical significance and expected negative sign of the lagged error correction terms across both estimated equations.

In the participation equation, short-run deviations from equilibrium are corrected through the adjustment mechanism captured by the error correction term (ECT). The negative coefficient indicates that labour force participation responds systematically to prior-period disequilibria, restoring long-run alignment with macroeconomic fundamentals. The magnitude of the coefficient reflects the speed of adjustment: larger absolute values imply faster convergence following fiscal or monetary shocks. This suggests that labour supply decisions in Nigeria respond not only to current policy conditions but also to accumulated macroeconomic imbalances.

For the productivity model, the error correction dynamics reveal slower but statistically significant convergence. This is theoretically consistent with capital deepening and technological diffusion processes, which require gestation periods before productivity gains materialize. Consequently, while macroeconomic instability may immediately disrupt labour efficiency, structural recovery occurs gradually as investment and skill adjustments unfold.

Jointly interpreted, the ECM evidence confirms that fiscal expansion and human capital investments generate both short-run stabilization and long-run structural productivity gains, whereas monetary tightening imposes sharper short-run labour costs. The adjustment coefficients further indicate that participation equilibrates faster than

productivity, reflecting lower structural rigidities in labour supply relative to capital and technology accumulation.

11 ROBUSTNESS CHECKS

To safeguard the reliability, stability, and external validity of the baseline ARDL estimates linking macroeconomic policies to labour force participation and productivity in Nigeria, a comprehensive set of robustness diagnostics was implemented. These tests address potential model misspecification, measurement sensitivity, temporal instability, and regime shifts, which are critical concerns in macro-econometric analyses of volatile emerging economies (Leamer, 1983; Barro & Sala-i-Martin, 1997).

Alternative Productivity Proxies: The baseline models used GDP per worker as the primary productivity measure. To confirm measurement robustness, alternative indicators (such as GDP per hour worked and sectoral value-added per employee) were substituted. Coefficient signs and statistical significance for key policy variables (fiscal expenditure, human capital investment, and trade openness) remained consistent across specifications. This invariance underscores that the documented productivity effects stem from underlying structural transmission channels rather than proxy choice, aligning with endogenous growth theory's emphasis on human capital as a sustained driver of efficiency (Becker, 1993).

Lag Structure Variations: Recognizing the gradual transmission of macroeconomic shocks to labour markets via investment, hiring, and wage channels, alternative lag orders were tested using Akaike and Schwarz information criteria within the ARDL framework. Core policy coefficients preserved directional stability, and error correction terms stayed negative and significant, affirming the robustness of long-run cointegrating relationships irrespective of lag selection (Pesaran, Shin, & Smith, 2001).

Sub-Period and Structural Break Analyses: Nigeria's policy landscape features distinct regime shifts from structural adjustment to post-liberalization eras. The sample was segmented into pre- and post-reform sub-periods, revealing intensified fiscal effects on participation during expansionary phases and stronger monetary contractions during stabilization periods. Productivity responses to trade openness and human capital proved more pronounced post-liberalization, reflecting enhanced global integration.

Complementing this, Bai–Perron multiple breakpoint tests identified endogenous regime shifts coinciding with major reforms (e.g., exchange rate unification, fiscal consolidations), while Zivot–Andrews unit root tests accommodated single breaks in stationarity processes. Inclusion of break dummies in re-estimations preserved coefficient signs, magnitudes, and significance, with error correction terms confirming equilibrium convergence. These outcomes indicate persistent macro-labour linkages across regimes, mitigating concerns over parameter instability (Bai & Perron, 2003; Zivot & Andrews, 1992).

Alternative Macroeconomic Policy Proxies: To guard against proxy bias, fiscal policy was re-specified using the fiscal balance-to-GDP ratio (emphasizing counter-cyclical capacity) and monetary policy via real interest rates (capturing inflation-adjusted credit costs). Re-estimated models yielded consistent signs: fiscal balance improvements bolstered productivity but showed muted participation effects compared to expenditure measures, while higher real rates exerted contractionary influences on both outcomes. This consistency reinforces structural robustness beyond specific operationalizations.

These layered validations, spanning proxy alternatives, dynamic specifications, sub-period partitioning, and structural break adjustments, substantially affirm the stability and credibility of the findings. The macro-policy effects on Nigerian labour participation and productivity emerge as reliable and generalizable, offering robust insights for policy formulation amid ongoing economic transitions.

12 DISCUSSION OF FINDINGS

The interpretation of policy transmission mechanisms in Nigeria reveals that fiscal expansion stimulates job creation primarily through the infrastructure-led crowding-in of private investment, where targeted capital expenditure enhances sectoral demand and reduces entry barriers for labour-intensive firms (Ramey, 2019; World Bank, 2025). Conversely, the transmission of tight monetary policy operates via a contractionary credit channel; elevated interest rates increase the cost of capital, particularly for SMEs, suppressing demand for new hires. This creates a discouraged worker effect where persistent labour market slack and rising economic misery dampen participation incentives, especially among the youth (Bhardwaj & Thory, 2025; CBN, 2024).

Consequently, the interplay suggests that while fiscal tools drive absorption, aggressive monetary tightening serves as a structural brake on participation gains.

The empirical findings of this study align with the demand-side transmission consensus, confirming that fiscal expansion positively correlates with labour participation through enhanced output expectations, corroborating global evidence that public expenditure serves as a primary driver of employment absorption in developing markets (Asaleye *et al*., 2022; Ramey, 2019). However, a significant contradiction emerges regarding the *productivity paradox*; unlike advanced economies where growth mirrors efficiency gains, Nigeria's output expansions frequently accrue to capital-intensive sectors without proportionate employment growth, diverging from standard neoclassical expectations (Conference Board, 2024). A unique Nigeria-specific anomaly is the structural rigidity of the informal sector, where approximately 92.7% of workers remain trapped in low-productivity activities (NBS, 2023). This dualism blunts monetary policy transmission, as aggressive interest rate tightening suppresses formal investment while the informal workforce remains largely insulated yet stagnant (CBN, 2024).

Human capital mediation analysis demonstrates that education significantly amplifies the transmission of macroeconomic policies to labour market outcomes in Nigeria. Consistent with endogenous growth theory, higher schooling attainment magnifies the productivity returns to fiscal expenditure and trade openness by enabling workers to absorb capital-deepening investments and skill-biased technological spillovers more effectively (Becker, 1993; Barro, 2013). Robustness checks confirm this moderating role: productivity elasticities to policy instruments strengthen when the human capital index rises above the sample mean of 0.4857, particularly in post-liberalization sub-periods where educated cohorts better convert stabilization measures into formal-sector participation and efficiency gains. This mediation channel directly addresses Nigeria's productivity paradox, transforming volatile macro stimuli into inclusive, sustained labour-market dividends amid pervasive informality (World Bank, 2020).

13 POLICY IMPLICATIONS

Fiscal policy design in Nigeria should prioritize capital expenditure targeting sectors with high labour absorption capacity to maximize employment multipliers and participation gains. Infrastructure investments in transport, energy, and industrial corridors stimulate firm expansion and crowd-in private capital, thereby accelerating job creation beyond direct public employment channels (Ramey, 2019; World Bank, 2022). Evidence from the study indicates that expenditure composition, rather than scale alone, determines labour market transmission strength. Embedding employment elasticity targeting within fiscal frameworks, through project appraisal metrics linking spending to job intensity, can enhance workforce absorption and productivity spillovers, particularly in economies characterized by informality and infrastructure deficits (Ilzetzki, Mendoza, & Végh, 2013).

Monetary policy coordination in Nigeria must explicitly balance growth stabilization with employment preservation, given the pronounced labour market sensitivity to interest rate cycles. Tightening episodes, while necessary for inflation containment, elevate borrowing costs, suppress private investment, and weaken firm-level labour demand, thereby constraining job creation and discouraging workforce entry. Empirical evidence indicates that credit-sensitive sectors (particularly manufacturing and SMEs) experience disproportionate employment contractions under restrictive liquidity conditions (Bernanke & Gertler, 1995; IMF, 2023). Coordinated policy design, sequencing disinflation with targeted credit easing and productive sector refinancing, can mitigate growth–employment trade-offs, ensuring price stability objectives do not undermine labour absorption and productivity expansion in structurally informal economies.

Labour market reforms in Nigeria must prioritize skills alignment and informality transition to enhance the absorptive capacity of macroeconomic policy transmission. Persistent mismatches between educational outputs and industrial skill demands constrain productivity and formal employment expansion, reinforcing structural unemployment and underemployment. Targeted vocational training, STEM-oriented curricula, and industry-linked apprenticeship systems can bridge this gap, improving labour mobility into higher-productivity sectors (ILO, 2023; World Bank, 2020). Simultaneously,

formalization incentives, such as tax simplification, digital registration platforms, and social protection portability, can facilitate the transition of informal enterprises into regulated productivity-enhancing ecosystems, strengthening wage security, fiscal capacity, and inclusive labour market participation.

Productivity enhancement in Nigeria requires coordinated industrial policy anchored on sectoral upgrading and accelerated technology diffusion. Strategic support for manufacturing clusters, agro-processing zones, and export-oriented value chains can stimulate scale economies, capital deepening, and learning spillovers, thereby raising output per worker. Evidence indicates that industrial policy effectiveness is amplified where infrastructure provision and credit access complement firm expansion (Rodrik, 2008; UNIDO, 2022). Concurrently, technology adoption, facilitated through digital infrastructure, innovation financing, and technology transfer partnerships, enables firms to integrate productivity-enhancing production processes, strengthening competitiveness and labour efficiency within structurally transforming economies.

14 CONCLUSION

This study investigated the transmission of macroeconomic policy to labour force participation and productivity in Nigeria using a dual-outcome econometric framework. Empirical evidence reveals that fiscal expansion and human capital investments exert positive and statistically significant effects on both participation and productivity, while tight monetary conditions dampen labour absorption and efficiency gains. These findings theoretically reaffirm Keynesian demand-side employment channels alongside human capital–augmented productivity growth (Becker, 1993; Blanchard & Leigh, 2013). Policy relevance lies in coordinating capital expenditure prioritization with employment-sensitive monetary stabilization. Developmentally, the results underscore that inclusive growth in structurally transforming economies requires synchronized macro-labour frameworks. However, data constraints on informal productivity measurement and proxy limitations remain notable. Future research should incorporate sectoral microdata, gender-disaggregated participation, and structural VAR shock simulations to deepen causal inference and policy transmission precision.

REFERENCES

Agbarakwe, H. U., Anowor, O. F., & Ikue, J. (2018). Foreign resources and economic growth in English speaking ECOWAS countries. Opción (Universidad del Zulia, Venezuela), 34(14), 117–136.

Agu, U., & Evoh, C. J. (2011). Macroeconomic policy for full and productive and decent employment for all: The case of Nigeria. International Labour Organization, 994672123402676.

Anowor, O. F., & Okorie, G. C. (2016). A Reassessment of the Impact of Monetary Policy on Economic Growth: Study of Nigeria. International Journal of Developing and Emerging Economies, 4(1), 82-90.

Anowor, O. F., & Ukpere, W. I. (2025). Health capital, labour dynamics, and agricultural performance: a panel data analysis. Annals of Spiru Haret University. Economic Series, 25(4), 263–270.

Anowor, O. F., Eze, B. N., & Ukpere, W. I. (2025). Sustaining economic growth: the roles of human capital investment, physical capital, and price stability. Annals of Spiru Haret University. Economic Series, 25(4), 207–214.

Anowor, O. F., Ichoku, H. E., & Onodugo, V. A. (2020). Nexus between healthcare financing and output per capita: Analysis of countries in ECOWAS sub-region. Cogent Economics & Finance, 8(1), 1832729.

Anowor, O. F., Ichoku, H. E., Onodugo, V. A., Ochinanwata, C., & Uzomba, P. C. (2023). Does investment in education and health impact youth employment outcomes? Evidence from Sub-Saharan Africa. Cogent Economics & Finance, 00: 2160128.

Anyanwu, J. C. (2014). Factors Affecting Economic Growth in Africa: Are There any Lessons from China? African Development Review, 26, 468-493. doi:https://doi.org/10.1111/1467-8268.12105

Asaleye, A. J., Maimako, R. .., Inegbedion, H., Lawal, A. .., & Popoola, O. (2022). Macroeconomic Reforms and Labour Market Performance: Evidence from Nigeria. Montenegrin Journal of Economics, 18(1), 105-115.

Bai, J., & Perron, P. (2003). Computation and Analysis of Multiple Structural Change Models. Journal of Applied Econometrics, 18, 1-22. doi:https://doi.org/10.1002/jae.659

Barro, R. J. (2013). Health and economic growth. Annals of Economics and Finance, 14(2), 329–366.

Barro, R. J., & Sala-i-Martin, X. (1997). Technological Diffusion, Convergence, and Growth. Journal of Economic Growth, 2, 1-26. doi:https://doi.org/10.1023/a:1009746629269

Basnett, Y., & Sen, R. (2013). What do empirical studies say about economic growth and job creation in developing countries? EPS-PEAKS Helpdesk Response. Overseas Development Institute. .

Becker, G. S. (1993). Human capital: A theoretical and empirical analysis, with special reference to education (3rd ed.). University of Chicago Press.

Bernanke, B. S., & Gertler, M. (1995). Inside the Black Box: The Credit Channel of Monetary Policy Transmission. Journal of Economic Perspectives, 9, 27-48. doi:https://doi.org/10.1257/jep.9.4.27

Bhardwaj, A., & Thory, P. (2025). Macroeconomic growth and labour market dynamics: An empirical analysis of GDP, labour force participation, and unemployment. Synergy: International Journal of Multidisciplinary Studies, 2(4), 1–10.

Blanchard, O. (2016). The Phillips curve: Back to the ’60s? American Economic Review, 106(5), 31–34.

Blanchard, O., & Johnson, D. R. (2013). Macroeconomics (6th ed.). Pearson.

Blanchard, O., & Leigh, D. (2013). Growth forecast errors and fiscal multipliers. American Economic Review, 103(3), 117–120.

Borjas, G. J. (2020). Labor economics (9th ed.). McGraw-Hill Education.

Cahuc, P., Carcillo, S., & Zylberberg, A. (2014). Labor economics (2nd ed.). MIT Press.

Central Bank of Nigeria (CBN). (2022). Annual statistical bulletin. Abuja: CBN.

Central Bank of Nigeria (CBN). (2023). Monetary policy communiqués and policy rate data. Abuja: CBN.

Central Bank of Nigeria (CBN). (2024). Fiscal and monetary policy interactions in a developing economy: A DSGE-based evidence from Nigeria. CBN.

Comin, D., & Mestieri, M. (2018). If technology has arrived everywhere, why has income diverged? American Economic Journal: Macroeconomics, 10(3), 137–178.

Conference Board. (2024). Total economy database: Output, labor, and capital data.

Dauda, R. S. (2023). Population dynamics, labour force participation and economic misery in Nigeria: An empirical investigation. Redeemer’s University Journal of Management and Social Sciences, 6(2), 1–18.

de Vries, G. J., Timmer, M. P., & de Vries, K. (2015). Structural transformation in Africa: Static gains, dynamic losses. The Journal of Development Studies, 51(6), 674–688.

Eze, B. N., Anowor, O. F., & Ukpere, W. I. (2025). Pathological inertia: institutional decay or structural rigidity? Evaluating bureaucratic barriers to achieving sustainable

development goals. Annals of Spiru Haret University. Economic Series, 25(4), 223–230.

Gomado, K. (2022). Reigniting labour productivity growth in developing countries: Do structural reforms matter? (WIDER Working Paper 2022/87). United Nations University World Institute for Development Economics Research.

Hall, R. E., & Jones, C. I. (1999). Why do Some Countries Produce So Much More Output Per Worker than Others? The Quarterly Journal of Economics, 114, 83-116. doi:https://doi.org/10.1162/003355399555954

Ikwumezie, A., Ogu, C., & Agu, A. M. (2025). Demographic Determinants of Labour Market Participation in Nigeria. Internasional Journal of Multidisciplinary Research (IJMR), 1(5), 581-597.

Ilzetzki, E., Mendoza, E. G., & Végh, C. A. (2013). How big (small?) are fiscal multipliers? Journal of Monetary Economics, 60(2), 239–254.

International Labour Organization (ILO). (2023). World employment and social outlook: Trends 2023. Geneva: ILO.

International Labour Organization (ILO). (2024). Navigating Nigeria's economic and labour market challenges: Pathways to inclusive growth and structural transformation. ILO.

International Monetary Fund (IMF). (2014). World economic outlook: Legacies, clouds, uncertainties. Washington, DC: IMF.

International Monetary Fund (IMF). (2021). World economic outlook: Recovery during a pandemic. Washington, DC: IMF.

International Monetary Fund (IMF). (2022). Nigeria: Article IV consultation report. Washington, DC: IMF.

International Monetary Fund (IMF). (2023). Nigeria: 2023 Article IV consultation report. Washington, DC: IMF.

Iwuoha, J. C. (2020). Rising unemployment in Nigeria-public debt to the rescue? Current Research Journal of Social Sciences and Humanities, 3(2), 280–290.

Kalu, E. U., Lawal, F. C., Ukpere, W. I., & Anowor, O. F. (2025). Elasticity of Financial System Stability to Growth Shocks and Economic Policy Uncertainty in Sub-Saharan Africa. Veredas Do Direito, 22(6), e224009.

Keynes, J. M. (1936). The General Theory of Employment Interest and Money. Macmillan & Co. Ltd., 1961 Reprint.

Leamer, E. (1983). Let’s Take the Con Out of Econometrics. The American Economic Review, 73, 31-43.

Lewis, W. A. (1954). Economic development with unlimited supplies of labour. The Manchester School, 22(2), 139–191.

McCullough, E. B. (2017). Labor productivity and employment gaps in Sub-Saharan Africa. Food Policy, 67, 133–152.

McMillan, M.; Rodrik, D. (2011). Globalization, structural change, and productivity growth. NBER Working Paper No. 17143. National Bureau of Economic Research (NBER).

Mourphy, G. M., Kalu, E. U., Ukpere, W. I., & Anowor, O. F. (2025). EXCHANGE RATE MONETARY POLICY PASS THROUGH AND CREDIT GROWTH IN SUB SAHARA AFRICA. Veredas Do Direito, 22(6), e224010. doi:https://doi.org/10.18623/rvd.v22.n6.4010

National Bureau of Statistics (NBS). (2023). Nigeria Labour Force Survey (NLFS) Q4 2023 Report. Abuja, Nigeria: NBS.

National Bureau of Statistics (NBS). (2024). Consumer price index report. Abuja: NBS.

Ngqoleka, S., Ncanywa, T., Mpongwana, Z., & Asaleye, A. J. (2025). Industrial Diversification in Emerging Economies: The Role of Human Capital, Technological Investment, and Institutional Quality in Promoting Economic Complexity. Sustainability, 17(15), 7021.

Nigerian Economic Summit Group (NESG). (2025). From hustle to decent work: Unlocking jobs and productivity for economic transformation in Nigeria. NESG.

Nwonye, N. G., Anowor, O. F., Uzomba, P. C., Abu, A., Chikwendu, N. F., Ojiogu, M. C., & Edeh, C. C. (2020). Financial Intermediation and Economic Performance in Nigeria: An ARDL Approach. International Journal of Advanced Science and Technology, 29(7), 8353-8361.

Ochinanwata, C., Uzomba, P. C., Onodugo, V. A., & Anowor, O. F. (2020). Does External Trade Improve Life Expectancy? A Long Run Equilibrium Analysis on English Speaking West African Countries. Solid State Technology, 63(5), 778–796.

Olanrewaju, S. M. (2024). Monetary Policy Transmission, Labour Force Participation and Real Sector Performance in Nigeria. International Journal of Research and Innovation in Social Science, 8(7), 2970-2978.

Onanuga, A. T., & Omitogun, O. (2022). Unemployment and monetary policy: Evidence from Sub-Saharan Africa. Journal of Public Affairs, 22(1), e2382.

Onodugo, V. A., Anowor, O. F., Ifediora, C., & N., A. (2019). Evaluation of Supply Chain Management Effects on Consumer Preference for Cowpea Quality Features and Price Trend in Niger State. International Journal of Supply Chain Management, 8(3), 503–516.

Onodugo, V. A., Kalu, I. E., & Anowor, O. F. (2013). An Empirical Analysis of the Impact of Investment in Human Capital on Nigerian Economy. PARIPEX– Indian Journal of Research, 2(4), 336 -339.

Onodugo, V. A., Obi, K. O., Anowor, O. F., Nwonye, N. G., & Ofoegbu, G. N. (2017). Does public spending affect unemployment in an emerging market? Risk governance & control: Financial markets & institutions, 7(1), 32-40.

Organisation for Economic Co-operation and Development (OECD). (2017). The macroeconomic impact of structural policies on labour market outcomes in OECD countries. OECD.

Osimen, G. U., Etoroma, O. M., Pokubo, I., & Adi, I. (2025). N-Power program and youth empowerment in Nigeria. Cogent Social Sciences, 11(1). doi:https://doi.org/10.1080/23311886.2025.2466786

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. Journal of Applied Econometrics, 16(3), 289–326.

Ramey, V. A. (2019). Ten years after the financial crisis: What have we learned from the renaissance in fiscal research? Journal of Economic Perspectives, 33(2), 89–114.

Rodrik, D. (2008). Normalizing industrial policy. World Bank Commission on Growth and Development Working Paper.

Trading Economics. (2025). Nigeria unemployment rate.

Unekwu, A., Kalu, E. U., Ukpere, W. I., & Anowor, O. F. (2025). Monetary Policy, Exchange Rate Inertia, And Inflation Expectations in the West African Monetary Zone: An Empirical Investigation. Veredas Do Direito, 22(6), e224011.

United Nations Industrial Development Organization (UNIDO). (2022). Industrial development report 2022. Vienna: UNIDO.

World Bank. (2020). World development report 2020: Trading for development in the age of global value chains. Washington, DC: World Bank.

World Bank. (2022). Nigeria public finance review: Fiscal adjustment and economic recovery. Washington, DC: World Bank.

World Bank. (2023). Nigeria development update: Tradeoffs for growth and stability. Washington, DC: World Bank.

World Bank. (2024). World development indicators database. Washington, DC: World Bank.

World Bank. (2025). Nigeria Development Update (October 2025): Bringing the reform gains home. World Bank Group.

Yakubu, M. M., Akanegbu, B. N., & Jelilov, G. (2020). Labour force participation and economic growth in Nigeria. Advances in Management & Applied Economics, 10(1), 1–14.

Zivot, E., & Andrews, D. W. (1992). Further Evidence on the Great Crash, the Oil-Price Shock, and the Unit-Root Hypothesis. Journal of Business and Economic Statistics, 10, 251-270. doi:http://dx.doi.org/10.2307/1391541