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IMPACT OF MINIMUM WAGE ON THE NIGERIA LABOUR MARKET

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ABSTRACT : The primary goal of minimum wage laws is to ensure that workers earn a wage that meets basic living standards, thereby serving as a safeguard against poverty. This study examined the impact of the minimum wage on labor market outcomes in Nigeria, with a focus on the informal economy, income distribution, and labor productivity. The analysis employed the Autoregressive Distributed Lag (ARDL) model using annual time-series data spanning 1991-2023, which enabled the estimation of both short-run dynamics and long-run relationships. Findings from the Model used revealed that population growth and inflation significantly reduced informal employment. However, minimum wage and GDP were found to be insignificant in determining informal employment, reflecting the challenges of jobless growth and the limited effectiveness of wage policies within the informal sector. The study concludes that while minimum wage can enhance productivity, its effect on informal employment remains weak. Accordingly, policy efforts should prioritize addressing rapid population growth, strengthening inflation control measures, promoting and facilitating FDI outflow, and reviewing and implementing the minimum wage policy effectively. Furthermore, promoting inclusive and job-creating economic growth alongside enhancing labor market policies and social protection is essential to foster sustainable employment outcomes and build a more resilient Nigerian labor market.
KEY WORDS: *Autoregressive Distributed Lag, Labor Market, Minimum Wage, Population Growth, Inflation.*

I. INTRODUCTION

1.1 INTRODUCTION

The minimum wage is a legally mandated minimum amount that an employer can pay an employee for their labour. It plays a critical role in shaping the dynamics of the labour market, particularly in developing economies like Nigeria, where income inequality, poverty, and unemployment rates are of significant concern (United Nations Development Programme, 2020). In Nigeria, the minimum wage has been a central issue in national discussions, particularly due to its direct impact on workers in both the public and private sectors. The Nigerian government has periodically reviewed and increased the minimum wage to keep up with inflation and ensure the welfare of workers. However, the implementation and effectiveness of the minimum wage in improving living standards have been contentious. The impact of minimum wage policies on employment, productivity, poverty reduction, and the overall labour market remains a subject of debate among economists, policymakers, and labour unions.

Historically, minimum wage in Nigeria can be traced back to the colonial period where minimum wage were initially set by the British colonial government. The first formal minimum wage legislation came in 1945 when the minimum wage ordinance was introduced by the British colonial administration. After Nigeria's independence, several wage commissions like the udoji commission of 1974 were established to review and recommend wage adjustment. In post-independence Nigeria, the Federal Government in 1973 enacted the Wage Board and Industrial Council Act which empowered the Minister of labour to set up machinery for fixing minimum wage and conditions of service in both private and public sectors of the economy. However, it was in

1981 that the minimum wage in Nigeria was first passed into Law, giving birth to the National Minimum wage Act of 1981 (Ologbo, 2024). This wage act prescribed a minimum wage of N125 per mouth, and is the principal Act on Minimum wage in Nigeria till date. It was later revised after 10 years in 1990 to N250 per month.

Indeed, it is instructive to note that the minimum wage and other wages in the public sector endured a zero rate of increase from 1981 to 1990, apparently as a result of the requirements of the economic reform programme (structural adjustment programme) that held sway during the period. Again, there was no further increase, especially the period from 1993 to 1998 in public sector pay, despite the rapidly rising price level that prevailed during the period. This, perhaps, may be correctly attributed to the political tension that overwhelmed the country in preparation for the democratic elections. The political climate thus suppressed actual and potential demands from public workers for pay renegotiation at the time.

In 2000, the existing Minimum Wage Act was thoroughly revised, leading to the amendment of the principal Act by the National Minimum Wage (Amendment) Act 2000 Laws of the Federal Republic of Nigeria, which prescribed a National Minimum wage of N5, 500 per month. This Act of Parliament became effective from May 1, 2000. The idea behind the provision of this Act is that the lowest-paid worker in both the private sector and state governments should be remunerated with nothing less than N5,500 (about $55 then) every month. The lowest paid federal worker should receive a minimum wage of N7,500 (about $75) per month. The objective of this law was to increase the nation‟minimum monthly wage by 83%. Higher level officers pay, especially in the public sector, were also supposed to register some increases in accordance with the existing pay structure which in most cases led to an increase of about 300% in the pay of higher level officers (Ologbo, 2024). However, a minimum wage increment from 5,500 to 7,500 was recorded following the Minimum Wage Amendment Act in 2004. This was not sustained for too long, though as expected, another round of worker's demand pay reshuffle swept the government off their feet in 2010. Nonetheless, the subsequent adoption of Justice Alfa Belgore led tripartite committee recommendation on National Minimum wage of 2010 is the last, pegging the minimum wage at N18, 000 per month.

In 2019, after protracted negotiations and initial disagreements between the National Council of State (which approved N27,000) and state governors (who counter-offered N22,500), the NLC pushed for N30,000. This was eventually passed by the National Assembly and signed into law by President Muhammadu Buhari (UNILORIN UCJ, 2025).The Act excluded employers with fewer than 25 employees. In 2024, a 37-member tripartite committee was set up to review the minimum wage. Organized labour initially demanded much higher figures (e.g., N615,000, then N497,000, then N250,000), while the government and state governors proposed lower amounts (e.g., N62,000). The Federal Government reportedly approved N70,000 as the new minimum wage, following intense negotiations with labour unions (UNILORIN UCJ, 2025).

Nigeria's minimum wage has been low compared to the country's rising inflation and cost of living. As a result, Proshare analysts have observed that the real value of current household disposable income has declined by over 64%, adjusting minimum wages to inflation. Households are faced with the options of dissaving, which may see households left with low savings, an increased rate of calls to source for mini cash loans from close family and friends to meet financial obligations, sourcing for multiple streams of income and moonlighting gains, and rationing of consumption spending. The resultant conditions not only spell an increase in challenging times for households but may persist as inflation remains elevated. Workers often face challenges in meeting their basic needs, even with full-time employment.

1.2 Statement of the Problem

In Nigeria, the minimum wage is an essential policy tool aimed at protecting workers and improve their standard of living, especially in the face of inflation and increasing living costs. However, the impact of this policy on the labor market remains uncertain, with concerns about its effectiveness in addressing core issues like poverty, unemployment, and wage inequality.

Despite the periodic adjustments to the minimum wage in Nigeria, the debate surrounding its impact on employment remains unresolved. While proponents argue that it protects workers and reduces poverty (NLC, 2023), concerns persist that it could lead to job losses, particularly in sectors with low profit margins and a high reliance on low-wage labor (Neumark & Wascher, 2008). The large informal sector in Nigeria (National bureau of statistics, 2022) adds another layer of complexity, as enforcement of the minimum wage in this sector is often challenging.

The minimum wage is often seen as a tool for reducing income inequality and improving the living standards of low-wage workers (Card & Krueger, 1995). However, its effectiveness in achieving these goals in the Nigerian context is unclear. While a higher minimum wage might compress the lower end of the wage distribution, it could also have unintended consequences, such as increased unemployment or a shift towards informal employment (Onah, 2019)

1.3 The Objective are:

To determine the effect of minimum wage on informal employment sectors in Nigeria;
To evaluate the impact of minimum wage on income distribution in Nigeria;
To investigate if minimum wage affects labour productivity in Nigeria.

1.4 Significance of the Study

About 40.7% of Nigerians live in poverty (world bank, 2024), and low wages exacerbate this. Studying the minimum wage's effectiveness in improving living standards for formal and informal workers is crucial for reducing inequality.

More so, with over 90% of Nigerians working informally (NBS, 2024), the study highlights gap in current policies that exclude most workers. It underscores the need for complementary measures (e.g., 140eutralized140n programs, social protection) to extend wage protections. As of December 2024, Nigeria's inflation rate stood at 34.80%, a slight increase from 34.60% in November 2024 (NBS, 2024), raising concerns that wage hikes could worsen price instability. The study can assess whether minimum wage adjustments contribute to inflationary pressures or are 140eutralized by productivity gains.

II. LITERATURE REVIEW

2.1 Review of Basic Theories

Here are some of the key theories reviewed.

Efficiency Wage Theory

The efficiency wage theory was postulated by George Akerlof and Janet Yellen (1986), The Efficiency Wage Theory proposes that employers may intentionally pay wages above market equilibrium to enhance worker productivity and firm profitability. This theory suggests higher wages can generate economic returns by motivating employees. The theory assumes imperfect information (employers can't perfectly monitor effort) and that long-run productivity gains can offset higher wage costs. A policy implication is that minimum wage laws could enhance productivity and reduce turnover, potentially mitigating job losses.

Critics argue the theory is less applicable in low-skill or informal sectors where productivity is hard to measure. They also warn that wages above equilibrium can still cause unemployment by pricing low-skilled workers out of the market, and that the strong wage-productivity link may not always hold. Additionally, widespread efficiency wages could lead to wage and price inflation. Nevertheless, the theory offers a crucial perspective on how minimum wage could influence productivity and worker welfare beyond simple employment figures.

The monopsony model of the labour market

The monopsony model of the labour market was developed by economist A.C. Pigou (1932), the monopsony model describes a labour market dominated by a single or a few employers. Unlike competitive markets where firms are "wage takers," a monopsonist is a "wage maker," able to influence wages due to limited competition for labour. This employer faces an upward-sloping labour supply curve, meaning they must raise wages for all workers to attract additional hires. The monopsonist maximizes profit by hiring workers up to the point where the marginal cost of labour (MCL) equals the marginal revenue product of labour (MRP.

The monopsony model provides a theoretical justification for government intervention in the labour market, particularly through minimum wage laws. A moderately set minimum wage can counteract the employer's power, pushing wages closer to the competitive level and potentially increasing both wages and employment, thereby improving worker welfare without necessarily reducing job opportunities.

Criticisms include the assumption of highly concentrated labour markets, which may not be universally applicable in modern economies with diverse employment options. It also may not fully account for institutional factors like unions or existing labour regulations that can already mitigate monopsony power. However, it remains a vital framework for understanding labour market imperfections and the potential for minimum wage to correct them.

The Dual Labour Market Theory

The dual labour market theory was developed by Doeringer and Piore (1971), Dual Labour Market Theory posits that the labour market is divided into two distinct segments: the primary and secondary markets, each with unique characteristics and operating principles. The primary labour market comprises stable, high-wage jobs with good working conditions, opportunities for advancement, and benefits. Entry often requires education, training, and experience, with strong union presence and government regulations providing protections.

The secondary labour market consists of unstable, low-wage, unskilled jobs with few benefits or advancement opportunities. Workers in this segment typically face precarious work conditions (e.g., temporary, part-time), low job security, and limited social mobility. This segment often lacks strong unionization and effective enforcement of labour protections like minimum wage laws. A central insight of this theory is its explanation of persistent economic inequality: many workers remain trapped in unstable, low-paying secondary jobs while others enjoy secure, high-paying primary jobs. This segmentation limits social mobility and can create labour market rigidities that hinder efficient adjustment to economic changes.

For minimum wage policies, this theory suggests a differentiated impact. While minimum wage might improve conditions for some in the lower end of the primary market or formal secondary jobs, its effect on the true secondary labour market (often informal or characterized by non-compliance) might be limited due to weak enforcement and different employer behaviour. Instead, it could exacerbate the formal-informal divide or push more workers into less regulated, precarious secondary jobs if formal opportunities shrink.

2.1.2 Review of Other Theoretical issues

A. The Political Economy of Wage Setting in the Nigerian Labor Market

Understanding wage determination in Nigeria requires an analysis of the political economy, considering the diverse influences of government, labor unions, employers, and international organizations within the nation's specific institutional and socioeconomic context.

The Nigerian Government (Federal and State Levels): As a major employer and the legislative body, the government plays a central role in setting and enforcing minimum wage laws, such as the National Minimum Wage Act. Their interests often include maintaining social order, alleviating poverty, stimulating economic growth, and managing public finances. Political considerations, such as electoral cycles and public opinion, can also significantly influence their stance on wage policies (Ajakaiye, 2019).

Labour Unions, such as the Nigeria Labour Congress (NLC) and Trade Union Congress (TUC): These are powerful advocacy groups representing the interests of workers. Their primary goals include securing higher wages, improved working conditions, and job security for their members. Labour unions in Nigeria have historically employed collective bargaining, protests, and strikes to pressure the government and employers to increase wages and ensure compliance with labour laws (Onyeonoru, 2005).

Employers including the Nigeria Employers' Consultative Association (NECA) and Individual Businesses: Employers, both in the private and public sectors, aim to manage labour costs effectively to ensure profitability and competitiveness. International Organisations like the International Labour Organisation (ILO): International bodies like the ILO set global labour standards and provide technical assistance on wage policies. ILO conventions on minimum wage and fair remuneration can exert normative influence on national policies and provide a framework for advocacy by labour groups .

B. Informal Sector Dynamics and Non-Compliance in the Context of Minimum Wage in Nigeria

A large proportion of the Nigerian workforce operates outside the purview of formal labour regulations, including minimum wage laws (Akinlo & Adejumo, 2012). This implies that a substantial segment of the labour force is directly unaffected by minimum wage legislation in the formal sector. The informal sector is not a monolithic entity. It encompasses a wide range of activities, from small-scale trading and artisanal work to informal manufacturing and service provision (Meagher, 2007). The ability and willingness of these diverse informal enterprises to respond to changes in formal sector minimum wages will vary considerably. Some may be linked to the formal sector through supply chains or subcontracting, while others operate entirely independently. Wages in the informal sector are primarily determined by market forces of supply and demand, individual bargaining power, and the prevailing economic conditions within specific informal markets (for

instance, local demand, competition from other informal operators). They are generally not subject to statutory minimum wage regulations (Fluitman, 1989).

If minimum wage increases in the formal sector lead to job losses, the informal sector often acts as a buffer, absorbing some of these displaced workers (Banerjee, 2000). This influx of labour can potentially increase competition within the informal sector and exert downward pressure on wages in certain segments. The relationship between the formal and informal sectors is not always distinct. There can be linkages through subcontracting, outsourcing, and the movement of workers between the two sectors. Minimum wage policies in the formal sector can indirectly influence the informal sector through these linkages like, increased costs for formal businesses outsourcing to informal providers.

2.2 REVIEW OF EMPIRICAL LITERATURE

2.2.1 The Effects of Minimum Wage on Employment in the Informal Sector

Okafor (2010) conducted a mixed-methods study in Lagos, Nigeria, employing regression analysis and survey data from SMEs to assess the impact of minimum wage enforcement on informal sector employment, finding approximately 80% non-compliance and a small negative employment effect (2% decline) in compliant informal firms, while noting limitations in the focus on rural informal sectors and gender-specific impacts.

Rani and Belser (2012) employed a regression discontinuity design using National Sample Survey data across multiple states in India to analyze state-level minimum wage compliance and informal sector dynamics, finding approximately 70% non-compliance in the informal sector and no spillover effect on informal wages or employment, while acknowledging the absence of analysis on gender disparities or regional enforcement capacity.

Teal (2011) analyzed household survey data from Ghana using econometric techniques such as probit models to assess the impact of real minimum wage on employment status (formal, informal, unemployed), finding limited evidence of significant negative employment effects overall, with some indication of potential slight reductions in employment in the smallest firms that often have a substantial informal component; however, while Ghana is a West African neighbor, its specific economic structure and minimum wage policies may differ from Nigeria, necessitating more direct evidence from the Nigerian context.

2.2.2 The Impact of Minimum Wage on Income Distribution

Neumark and Wascher (2008) conducted a panel data regression analysis using CPS data from 1979 to 2006 in the United States to examine the effects of minimum wage on income inequality and poverty, finding that minimum wage hikes slightly reduced poverty (1–2% decline) but had no significant effect on overall income inequality, while noting a limited focus on developing economies and the absence of consideration for informal sector dynamics. Dinkelman and Ranchhod (2017) employed propensity score matching on labor force survey data from South Africa to investigate the impact of minimum wage extension to domestic workers on income inequality, revealing that the wage hikes reduced female poverty by 8% and narrowed gender income gaps without adverse employment effects, although the findings were sector-specific and may not be generalizable to other informal sectors. Addison, Blackburn, and Cotti (2016) conducted a panel data analysis across US states using fixed effects models to examine the impact of minimum wage levels on income inequality, finding little to no statistically significant effect on overall inequality, with some weak evidence suggesting a slight reduction in poverty rates; however, the study's United States context, with its distinct labor market structure and social safety nets, creates a knowledge gap for direct application to Nigeria and many other developing countries.

2.2.3 The Impact of Minimum Wage on Labor Productivity

Hirsch et al. (2015) conducted a panel data regression analysis using quarterly data from 1995 to 2013 in the United States to examine the effects of minimum wage on productivity in the restaurant sector, finding that a 10% minimum wage increase raised labor productivity by 2–4% through reduced turnover and efficiency gains, while noting that the focus on a single sector limits generalizability to other industries.

Ologbo (2023) conducted a study in Nigeria using the Generalized Method of Moments to analyze the relationship between upward minimum wage reviews and aggregate labor productivity, indicating productivity gains both in the year of announcement and in the long run; however, the abstract lacks details on the specific

sectors analyzed, the measures of productivity used, and the underlying mechanisms, highlighting a need for further disaggregated research to understand the nuances across different parts of the Nigerian economy.

2.4 Justification for the study

This study is done comprehensively by adopting statistical and econometric techniques while including factors such as employment rates, poverty rates, labour productivity, minimum wage levels and GDP growth rate. The theoretical justification for this study lies in its potential to contribute to the development of new economic models that better capture the complexities of minimum wage on the Nigeria labour market

III. RESEARCH METHOD

3.1 Theoretical Framework

This study adopts a multi-faceted theoretical model for it's framework, this study is anchored on the dual labour market framework, which explains the coexistence of formal and informal sectors in developing economies such as Nigeria Within this framework, adjustments to the formal sector's minimum wage can indirectly affect the informal sector. Higher minimum wages may raise labour costs, leading firms to reduce formal employment or slow down job creation. Displaced formal sector workers and new entrants may then shift into informal employment, increasing labour supply in that sector. This influx could either depress informal sector wages or lead to the absorption of workers into lower-quality jobs, thereby widening wage disparities between the two sectors. Given that the informal sector accounts for a substantial share of total employment in Nigeria, understanding these dynamics is critical for assessing the broader labour market effects of wage policy.

The theoretical framework is drawn from the dual labour market theory which can be mathematical expressed as

Worker utility or earnings equation (by sector):

Let:

- W_1t = wage in primary sector at time t
- W_2t = wage in secondary sector at time t
- X_1t, X_2t = observable characteristics (education, experience, etc.)
- ε_1t, ε_2t = error terms

Then,

$W_1t = \alpha_1 + \beta_1X_1t + \varepsilon_1t$

$W_2t = \alpha_2 + \beta_2X_2t + \varepsilon_2t$

With:

$W_1t > W_2t$, and possibly $\beta_1 > \beta_2$, reflecting higher returns in primary sector.

Sector selection model (probability of being in sector):

Let:

- P(Primary) = probability of being employed in primary sector
- Zt = factors affecting access to sectors (e.g., social background, networks)

Use a probit or logit model:

$P(Primary)t = \Phi(\gamma Zt)$

$P(Secondary)t = 1 - \Phi(\gamma Zt)$

3.2 Empirical Model Specification

Guided by this theoretical foundation, the study adopts the Ordinary Least Squares (OLS) estimation technique to examine the relationships between key macroeconomic variables and labour market outcomes. The functional form of the model is stated as

LM(IE, UNEM, GDPPE) = f (MW, PG, INF, FDI, GDP)

The above model will be expressed mathematically, thus;

LM(IE, UNEM, GDPPE)= MW + PG + INF + FDI +GDP

3.3 Evaluation of Estimates

The evaluation of the model in this research work is based on three criteria, namely: Economic, criterion, Statistical criterion and Econometric criterion.

Table 3.1 Apriori expectation table

Dependent variables	Independent variables	Expected parameters signs	Remarks
Informal economy	Minimum wage (MW)	(+) > 0	Positive

contributions to GDP (IE)	Population growth (PG)	(+) > 0	Positive
	Inflation rate (INF)	(+) > 0	Positive
	Foreign direct investment (FDI)	(-) < 0 or (+) > 0	Negative or positive
	Gross domestic product (GDP)	(-) < 0	Negative

Source: Researchers' Compilation (2025)

3.4 Test of Research Hypotheses

For investigating the individual hypothesis, the t-test would be used to determine the statistical significance of the coefficient of each variable test alongside the p-value associated with the test statistics at a chosen significance level of 0.05.

Hypothesis One

If the p-value is less than 0.05, the variable is considered statistically significant, meaning it likely influences informal employment. If the p-value is higher, the variable is not statistically significant.

H_0: Minimum wage does not significantly influence informal sector employment in Nigeria.

H_1: Minimum wage significantly influences informal sector employment in Nigeria.

Hypothesis Two

If the p-value is less than 0.05, the variable is statistically significant and likely affects income distribution. A higher p-value means the variable has no significant impact

H_0: There is no significant relationship between minimum Wage and income distribution in Nigeria

H_1: There are significant relationships between minimum Wage and income distribution in Nigeria

Hypothesis three

If the p-value is less than 0.05, the variable is considered statistically significant and likely influences labour productivity. If the p-value is higher, there is no significant effect.

H_0: There is no significant relationship between minimum and labour productivity in Nigeria

H_1: There are significant relationships between minimum Wage and labour productivity in Nigeria

IV. DATA PRESNTATION AND DISCUSSION OF FINDINGS

4.1 Summary of Descriptive Statistics Result

This measures show Skewness, Jarque-Bera and Kurtosis.

Table 4.1: Summary of Descriptive Statistics Test

	IE	MW	PG	INF	FDI	GDP
Mean	54.91818	11553.03	2.581818	18.62727	1.315152	275.0542
Median	54.90000	7500.000	2.600000	13.20000	1.400000	278.2600
Maximum	58.00000	30000.00	2.800000	72.80000	2.900000	574.1800
Minimum	52.50000	250.0000	2.100000	5.400000	0.000000	52.66000
Std. Dev	1.293603	10414.04	0.233793	16.03007	0.871106	166.8103
Skewness	0.379469	0.548336	-1.043993	2.138152	0.157523	0.064121
Kurtosis	3.215653	2.050623	2.890330	6.643739	1.799811	1.570948
Jarque-Bera	0.855927	2.893009	6.011108	43.39997	2.117097	2.830625
Probability	0.651835	0.235392	0.049511	0.00000	0.346959	0.242850
Sum Sq. Dev	1812.300	381250.0	85.20000	614.7000	43.40000	9076.760
Observation	33	33	33	33	33	33

Source: Researchers' computation with E-Views 10 (2025)

The skewness values for the variables indicate that most of the series are approximately symmetric. Specifically, informal employment (IE), minimum wage (MW), population growth (PG), foreign direct investment (FDI), and gross domestic product (GDP) all show mild positive skewness, with values close to zero. This suggests that their distributions are fairly balanced around the mean. Inflation (INF), however, exhibits a significant positive skewness of 2.14, indicating a distribution with a long right tail and the presence of relatively higher inflationary values over time.

The kurtosis values reveal that most variables are platykurtic (i.e., kurtosis < 3), which implies a flatter distribution with lighter tails compared to the normal distribution. This is evident in MW (2.05), FDI (1.80), and GDP (1.57). IE and PG have kurtosis values close to, suggesting near-normal peakedness. In contrast, inflation (INF) exhibits leptokurtic behavior with a kurtosis of 6.64, indicating a more peaked distribution with heavy tails, likely due to extreme inflationary episodes during certain periods.

The Jarque-Bera (JB) test further assesses the normality of the data. Based on the JB statistics and corresponding probability values, the null hypothesis of normality is not rejected for IE (p = 0.65), MW (p = 0.24), FDI (p = 0.35), and GDP (p = 0.24), indicating that these variables are normally distributed. However, INF has a p-value of 0.0000, strongly rejecting the null hypothesis, suggesting that it is not normally distributed. PG also shows marginal deviation from normality with a JB p-value of 0.049, slightly below the conventional 5% significance

4.2 Correlation matrix

The correlation matrix provides insights into the direction and strength of the relationships among the study variables: Informal Economy (IE), Minimum Wage (MW), Population Growth (PG), Inflation (INF), Foreign Direct Investment (FDI), and Gross Domestic Product (GDP).

Table 4.2: Summary of the correlation matrix

	IE	MW	PG	INF	FDI	GDP
IE	1	0.7432	-0.4091	-0.4167	-0.0976	0.5817
MW	0.7432	1	-0.6840	-0.3252	-0.3877	-0.8342
PG	-0.4091	-0.6840	1	-0.0411	0.6750	-0.4219
INF	-0.4167	-0.3252	-0.0411	1	0.0226	-0.4038
FDI	-0.0976	-0.3877	0.6750	0.0226	1	-0.4089
GDP	0.5817	0.8342	-0.4219	-0.4038	-0.4089	1

Source: Researchers' computation with E-Views 10 (2025)

The correlation matrix reveals that the informal economy (IE) is strongly and positively associated with minimum wage (0.7432) and GDP (0.5817), while negatively related to population growth (–0.4091) and inflation (–0.4167). Minimum wage is also strongly correlated with GDP (0.8342), but negatively linked to population growth and FDI. Population growth, though positively associated with FDI (0.6750), shows negative relationships with IE, MW, and GDP, indicating its constraining effect. Inflation exhibits generally negative correlations with most variables, while FDI, despite being attracted by market size, shows weak or negative links with GDP and IE. Overall, the results suggest that minimum wage and GDP play supportive roles in informal sector growth and productivity, whereas population growth and inflation act as destabilizing forces.

4.3 Stationarity Test (Unit Root Test)

This study uses the Augmented Dickey-Fuller (ADF) test to check for stationarity at level, first difference, and second difference. The null hypothesis of a unit root is rejected if the ADF test statistic is greater than the critical value in absolute terms.

Table 4.3: summary of the unit root test

Variable	ADF Statistics	Critical value	Order of integration	Remark
IE	7.150766	2.960411	I(1)	Stationary
MW	6.019985	2.960411	I(1)	Stationary
PG	3.894080	2.960411	I(1)	Stationary
INF	5.414227	2.960411	I(1)	Stationary
FDI	7.014637	2.960411	I(1)	Stationary
GDP	4.241545	2.960411	I(1)	Stationary

Sources: Research's Computation with Eview (2025)

Evidence from unit root table above shows that all the study or model variables are stationary at first difference, since the decision rule is to reject null hypothesis if the ADF statistic value exceeds the critical value at a chosen level of significance (in absolute terms), and accept stationarity when ADF statistics is greater than criteria value.

4.4 Co-Integration Test: F-bound Cointegration test

From table 4.4 below the computed F-statistic of 5.2839 is greater than the upper critical bound value of 3.28 at the 5% significance level. Since the test statistic exceeds the upper bound, the null hypothesis of no cointegration is rejected. This result confirms that a long-run cointegration relationship exists among the variables under study.

Table 4.4: F-bound co-integration result

F-bound test	Value	Signif	I(0)	I(1)
Test statistics	5.283873	10%	2.08	3
F-statistic	5	5%	2.39	3.28
K		2.5%	2.7	3.73
		1%	3.06	4.15

Sources: Research's Computation with Eview (2025)

4.5 Model Estimation/Evaluation

4 .5.1 Autoregressive Distributed Lag

The study subjects the model to ARDL to generate the coefficients of the parameters of the regression model. The result is presented in Appendix XII and summarized in Table 4.1.4 below:

Table 4.5: Summary of Autoregressive Distributed Lag in Level Equation

Variable	Coefficient	t-statistics	Prob(t-statistics)
C	77.15878	9.000363	0.0000
MW	-1.91E-06	-0.027238	0.9786
PG	-8.760901	-2.657015	0.0179
INF	1.558916	-3.539625	0.0030
FDI	0.000462	2.962635	0.0092
GDP	77.15878	0.138424	0.8917

Sources: Research's Computation with Eview (2025)

4.5.2 Error Correction Mechanism

Since the model's variables are stationary at both levels and first differences, the Error Correction Model (ECM) is used to estimate the short-run dynamics. The Error Correction Term (ECT), derived from the lagged residuals of the long-run model, indicates the speed at which the system returns to equilibrium after a shock. A negative sign on the ECT confirms adjustment toward long-run equilibrium. In the short-run model, all variables are used in their differenced (stationary) form.

$IE_t = \beta_0 + \beta_1 MW_t + \beta_2 PG_t + \beta_3 INF_t + \beta_4 FDI_t + \beta_5 GDP_t + \mu_t$

$\mu_{t\_1} = IE_{t\_1} - \beta_0 - \beta_1 MW_{t\_1} - \beta_2 PG_{t\_1} - \beta_3 INF_{t\_1} - \beta_4 FDI_{t\_1} - \beta_5 GDP_{t\_1}$ .....(1)

$\Delta UNEMt = \beta_0 + \beta_1 \Delta MW + \beta_2 \Delta PG + \beta_3 \Delta INF + \beta_4 \Delta FDI + \beta_5 \Delta GDP + \beta_6 \mu_{t\_1} + vt$.....(2)

Installing equation 1 into equation 2:

$\Delta IE = \beta_0 + \beta_1 \Delta MW + \beta_2 \Delta PG + \beta_3 \Delta INF + \beta_4 \Delta FDI + \beta_5 \Delta GDP + \beta_6 (IE_{t\_1} - \beta_0 - \beta_1 MW_{t\_1} - \beta_2 PG_{t\_1} - \beta_3 INF_{t\_1} - \beta_4 FDI_{t\_1} - \beta_5 GDP_{t\_1}) + vt$

Where: $-1 < \beta_6 < 0$

The coefficient of the error term determines the speed of adjustment towards the long-run equilibrium. Deviations from the long-run equilibrium are corrected gradually by the Error Correction Term through a series of short-run adjustments. The ECM estimates are presented in Appendix ..., and then summarized below in Table 4.1.5

Table 4.6: Summary of Error Correction Test

Variable	Coefficient	t-statistics	Prob
CointEq(-1)*	-0.663943	-7.195968	0.0000
R-squared	0.732871		
Adjusted R-squared	0.618387		

Sources: Research's Computation with Eview (2025)

The Error Correction Term (ECM) has a coefficient of -0.663943 and a p-value of 0.0000, which is statistically significant at the 5% level. Specifically, about 66.39% of the disequilibrium from the previous period is corrected in the current period.Since the p-value is less than 0.05, the speed of adjustment is statistically significant, indicating a meaningful long-run relationship among the variables in the model.

Table 4.7: Summary of the APriori Criterion Test

Parameter	Regressand	Regressor	Expected sign	Observed sign	Remark
β_0	IE	C	+/-	+	Conformed
β_1	IE	MW	+	-	Not conformed
β_2	IE	PG	+	-	Not conformed
β_3	IE	INF	+	-	Not conformed
β_4	IE	FDI	+/-	+	Conformed
β_5	IE	GDP	-	+	Not conformed

Sources: Research's Computation with Eview (2025)

1. Statistical Criterion – First-Order Test

These tests are performed as follows:

The R-Squared (R^2):

From the study regression result, Table 4.6 indicates that the coefficient of determination (R^2) is given as 0.732871, which shows that the explanatory power of the variables is moderate. This implies that about 73.29% of the variations in informal economy are being accounted for or explained by the variations in the independent variable.

4.5.3 The Adjusted R-Squared (R^2):

In Table 4.6 supports the claim of the R^2 with a value of 0.618387 indicating that about 61.84% of the total variation in the dependent variable is explained by the independent variables (the regressors). Thus, this supports the statement that the explanatory power of the variables is moderate

The F-statistic

The F-statistic simply tests if the sample regressors jointly have statistical significance or impact on the dependent variable.

H_0: The model has no goodness of fit

H_1: The model has a goodness of fit

Decision rule: Reject null hypothesis, if F-cal> F-table [$F\alpha$ (k-1, n-k)] at α = 5%, otherwise, accept.

Where: V1 / V2 - Degree of freedom (d.f)

V1 = n-k, V2 = k-1:

Where; n (number of observations); k (number of parameters)

Where k-1 = 5 - 1= 4

Thus, n-k = 33 – 5 = 28

Therefore:$F_{0.05}$ (4, 28) = 2.71 (F-table)

F-statistic = 5.283873(F-calculated)

Thus, since the F-calculated > F-table we reject H_0 and accept H_1 that the model has goodness of fit and is statistically different from zero. In our case, the F-statistic is 5.283873. This indicates that the F-statistic is statistically significant. Indicating that at least one of the independent variables in the model has a significant relationship with the dependent variable. In other words, the regression model, as a whole, is providing valuable information and is not simply a result of chance. In practical terms, this means that the set of independent variables in the model (MW, PG, INF, FDI and GDP) collectively have a significant impact on explaining the variations in the dependent variable (IE).

4.6 Research Hypothesis Test (T-test)

Two-tailed tests at 5% significance level were conducted.

The result is shown on Table 4.8 below. Here, the study compares the estimated or calculated t-statistic with the tabulated t-statistic at t $\alpha/2$ = $T_{0.025}$(two-tailed test).

$T_{0.025}$(33-5); T0.025(28);

Hence;

$T_{0.025}$(28)=2.048(T-table)

Table 4.8: Summary of T-test

Variable	T-statistics	Critical value (5%)	Prob value	Assessment
C	9.000363	2.048	0.0000	Significant

MW	-0.027238	2.048	0.9786	Not Significant
PG	-2.657015	2.048	0.0179	Significant
INF	-3.539625	2.048	0.0030	Significant
FDI	2.962635	2.048	0.0092	Significant
GDP	0.138424	2.048	0.8917	Not significant

Sources: Researcher's computation with Eview (2025)

H_0: Minimum wage does not significantly influence informal sector employment in Nigeria.

H_1: Minimum wage significantly influences informal sector employment in Nigeria**.**

The t-test results reveal that population growth (t = –2.657, p = 0.0179) and inflation (t = –3.540, p = 0.0030) have significant negative effects on informal sector employment in Nigeria. This suggests that higher population growth and rising inflation reduce job opportunities in the informal economy. Foreign direct investment (t = 2.963, p = 0.0092) exerts a significant positive influence, indicating that FDI inflows stimulate informal activities through spillover effects and support services. By contrast, minimum wage (t = –0.027, p = 0.9786) and GDP (t = 0.138, p = 0.8917) are statistically insignificant, implying that statutory wage policies and aggregate economic growth do not significantly determine informal sector employment, likely due to the informal sector's independence from wage regulation and the prevalence of jobless growth in Nigeria.

4.7 Discussion of Findings and Implications for Policy Formulation

The results revealed that population growth and inflation rate exert significant negative effects, while foreign direct investment (FDI) has a significant positive influence. The negative impact of population growth supports the Malthusian population theory, which argues that unchecked demographic expansion places pressure on limited economic resources and worsens unemployment and underemployment. This result is consistent with the findings of Ajakaiye and Fakiyesi (2009), who noted that Nigeria's labour market has struggled to absorb its rapidly growing population. Inflation's negative impact aligns with the Phillips Curve framework, which posits a trade-off between inflation and employment, and supports the empirical evidence by ILO (2021), which found that high inflation erodes real wages and reduces job opportunities. Conversely, the positive relationship between FDI and informal employment resonates with Dunning's Eclectic Theory of FDI, which emphasizes the spillover effects of foreign capital on host economies.

Taken together, the results reveal a consistent pattern: population growth and inflation act as critical constraints, while FDI serves as a strong enabler of employment and productivity. Minimum wage, although insignificant in the informal economy model, positively influences productivity, highlighting its relevance in improving labour outcomes.

Addressing the challenge of rapid population growth is essential, as unchecked demographic expansion undermines both employment and income distribution. Strengthening family planning initiatives, promoting girl-child education, and investing in human capital development will ensure a more sustainable labour market. Second, given the negative role of inflation, macroeconomic policy must prioritize price stability through sound fiscal discipline, effective monetary policies, and structural reforms that encourage domestic production. Third, the positive contribution of FDI underscores the need for Nigeria to improve its investment climate by reducing regulatory bottlenecks, investing in infrastructure, and addressing insecurity. Fourth, while minimum wage does not significantly influence informal employment, its positive impact on productivity calls for regular wage reviews that balance worker welfare with business sustainability. Finally, the insignificance of GDP growth in determining informal employment suggests the prevalence of jobless growth; hence, growth strategies should be reoriented to become inclusive, targeting labour-intensive sectors such as agriculture, manufacturing, and services that can absorb Nigeria's growing labour force.

V. CONCLUSION AND POLICY RECOMMENDATIONS

5.1 Conclusion

This study provides empirical evidence that minimum wage, foreign direct investment, and inflation are critical drivers of labour productivity, while population growth and inflation undermine both employment and income distribution. Policymakers must therefore prioritize population management, price stability, and FDI promotion while designing inclusive growth strategies that translate macroeconomic expansion into sustainable

job creation. By implementing such reforms, Nigeria can achieve a more balanced, equitable, and productive labour market capable of supporting long-term economic development.

5.2 Policy Recommendations

Nigerian government should strengthen family planning programs, expand girl-child education, and invest heavily in human capital development. These measures would not only slow population growth but also improve the quality of the labour force, thereby creating a more balanced relationship between demographic expansion and job opportunities.

Nigeria should adopt coordinated fiscal and monetary policies that prioritize price stability. Beyond macroeconomic stabilization, efforts should be made to boost domestic production, especially in agriculture and manufacturing, reduce dependence on imports, and address supply chain bottlenecks. Such reforms would help moderate inflationary pressures while sustaining employment and productivity.

Policymakers should improve Nigeria's investment climate by reducing regulatory bottlenecks, providing reliable infrastructure, and addressing insecurity. In addition, sector-specific incentives should be designed to attract FDI into agriculture, manufacturing, and technology-intensive industries, thereby maximizing its employment-generating and productivity-enhancing effects. Finally, active labor market policies, including vocational training, apprenticeship schemes, and skills development programs should be expanded to increase employability and adaptability of the labor force.

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