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Macroeconomic Determinants of Labour Mobility in Nigeria

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Abstract

This study examined the macroeconomic determinants of labour mobility in Nigeria. The main objective of the study was to examine the macroeconomic variables that affect labour mobility in Nigeria while the specific objectives were to ascertain the demographic factors that determine labour mobility in Nigeria, investigate the relationship between secondary school enrolment, government expenditure, inflation rate and access to electricity on labour mobility in Nigeria. The pull and push theory of labour mobility was the main theoretical framework of the study. The first model was analyzed using the Auto regressive Distributed lag (ARDL) model while the second model was analyzed using ordinary least square multiple regression technique. The results of the analyses showed that geographic location, marital status, education level, and current occupation were all positive and significant demographic variables that affect labour mobility in Nigeria. Additionally, access to electricity and other necessities, as well as the rate of inflation, were positive and significant factors that influenced labour mobility in the short run in Nigeria. The study concluded that inflation rate and the need for access to electricity and other basic amenities have a significant impact on the decision to migrate to urban areas, and that demographic factors such as location, marital status, education, and occupation significantly drive labour mobility in Nigeria. The study suggested that the Nigerian government should increase investment in basic infrastructure at the rural level.

Keywords: Access to Electricity, Demographic Factors, Inflation Rate, Labour Mobility
JEL Classification Codes: J1, J61, J23, E0

1. Introduction

The ability of people to switch jobs across different companies, occupations, locations, or nations is a straightforward definition of labour mobility (Mboya, 2020). The ease with which workers can move between employments is known as labour mobility (Satope & Akintunde, 2018). The necessity of labour mobility has long been acknowledged as vital in gaining economic integration and advancement across the Economic Community of West African States (ECOWAS). As noted by Satope and Akintunde (2018), there are two primary categories of labour mobility: occupational mobility and geographic mobility. It has long been acknowledged that labour mobility is essential to achieving economic integration and progress throughout the Economic Community of West African States (ECOWAS). The ability of people to switch jobs across different companies, occupations, locations, or nations is a straightforward definition of labour mobility (Mboya, 2020).

However, this has not been the case in recent years due to the phenomenon of urban surplus labour which has led to urban unemployment problems (Todaro, 1976) and an urban cash economy where a decline in wages makes them vulnerable to a variety of issues even worse than in the rural areas (Tindigarukayo, 2021). Originally, labour mobility was viewed favourably as a natural process by which surplus labour moves from the rural sector to the urban industrial sector in search of well-paying jobs in urban areas and with the aim of sending remittances to their families, improving the welfare of rural folks left behind (Gilbert & Gugler, 2012). In Nigeria, labour mobility is generally attributed to three types of factors: the need for education and skill development in a variety of vocations; the lack of desirable job opportunities in rural areas, which includes unemployment, the absence of businesses and industries, and boredom in agriculture; and, lastly, social factors, such as insufficient amenities (Aworemi, Abdul-Azeez, & Apoola, 2017).

People living in rural areas, where agriculture is their primary source of income, are especially susceptible to the effects of migration (Duda, Fasse & Grote, 2021). This is due to their inadequate capacity for risk management and coping (International Organization for Migration [IOM] 2017). Furthermore, the Food and Agricultural Organization [FAO] 2018) noted that rural push factors that encourage labour migration from rural to urban regions include environmental deterioration, climate change, high rates of poverty, a lack of

alternative employment opportunities, and limited access to basic utilities. According to Sowunmi and Adeduntan (2020), Nigerian government policies encourage migration from rural to urban areas. This is due to the fact that Nigeria's economy is heavily reliant on oil revenue, which is distributed among the federating units at the expense of rural areas and agriculture. Furthermore, there are not enough funds available to invest in local community development initiatives due to the declining oil price. People are leaving rural and local communities to move to the city in pursuit of better opportunities as a result of these difficulties (Zabbey & Babatunde 2019).

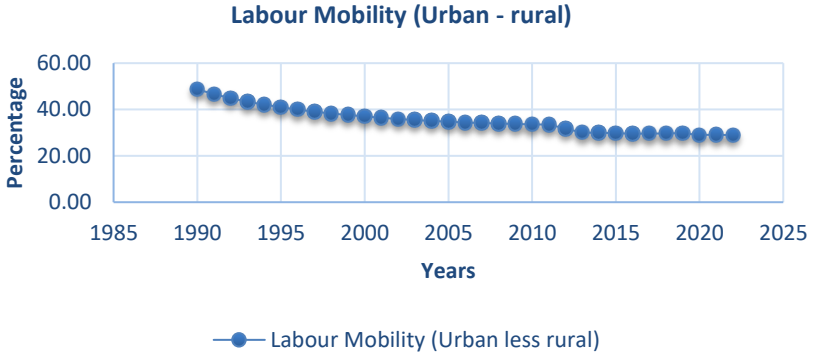

Figure 1: Labour mobility chart for Nigeria, 1990-2023
Source: National Bureau of Statistics [NBS], 2023

Labour mobility in Nigeria from rural to urban is on a slow slide decreasing from 48.74% in 1990 to 33.57% in 2010 and declining further to 28.83% in 2022. Given that 28.5% of Nigerians moved from rural to urban areas by the end of 2023, it is clear from the data that labour mobility in the country is becoming less appealing as the year goes on. According to economic literature, one benefit of labour mobility is higher labour productivity (Iseghohi, 2021) Since labour mobility is motivated by the desire for higher labour earnings, high labour productivity can be a significant indicator of improvements in real incomes (wages of labour), which are also caused by labour mobility.

Numerous empirical investigations have been conducted that are comparable to or connected to this one (Mistura, Ogunniyi, Salman, Oyeyemi, & Salawu, 2019; Satope & Akintunde, 2018; Mboya, 2020; Kurniawati, Mafruhah, & Putro, 2023). The majority of

labour mobility research focused on regional and continental labour mobility, which was one evident finding from the preliminary literature search (Arpaia, Kiss, Palvolgyi, & Turrini, 2015; Mayda, 2016; Kurniawati et al., 2023; among others). While there were a few studies with literature from Nigeria that did not address the main macroeconomic determinants of labour mobility in Nigeria, other studies that were found to be closely related to this research were not conducted in Nigeria (Mistura *et al.* 2019; Roche, Birrel, Murie, & Hillyard, 2019). As a result, there is little economic literature on the macroeconomic factors influencing labour mobility in Nigeria.

Furthermore, Nigeria's labour force participation rate is 77.53% and its secondary school enrolment rate is 54.62%, according to data from NBS (2023). Additionally, government spending on economic services (roads, agriculture, transportation/ communication and social and community services (health, education, transport) were ₦600.9 billion and ₦1.751 trillion, respectively. As of 2023, the yearly percentage change in the typical consumer's cost of purchasing a basket of goods and services is 21.6%, according to the consumer price index, which measures inflation (World Bank, 2023). Given these figures, it is imperative to do a current analysis of these macroeconomic factors to see whether they affect labour mobility in Nigeria (rural versus urban).

The primary objective of this research is to identify the key macroeconomic variables affecting labour mobility in Nigeria. Specifically, the study intends to examine the demographic factors that influence labour mobility in Nigeria; assess whether secondary school enrolment is a significant factor affecting labour mobility in Nigeria; analyze the impact of government expenditure on labour mobility; investigate how inflation rate influences labour mobility; and determine whether access to electricity is a determinant of labour mobility in Nigeria.

2. Literature Review

2.1 Conceptual Clarifications

2.1.1 Labour Mobility

The ease of moving workers between employment or geographical areas is known as labour mobility (Wajim, 2023). Accordingly, labour mobility can be summed up as employees' capacity to switch between various companies, different professions, different regions, or different nations (John, 2022). In its broadest

form, Long and Ferrie (2013) defined labour mobility as the physical movement of workers both across geographic location (geographic mobility) and between different jobs (occupational mobility).

Geographic mobility or the movement of people between regions (rural to urban areas within a nation) is the primary subject of this study. Jorgen and Regina (2023), and Berden, Francois, Paczynski and Plaisier (2013) noted that workers can move from rural to urban areas in search of employment and on the other hand, they can move from urban to rural areas in search of the same employment. One can differentiate between internal migration, which is the movement of workers between different regions inside a country, and international labour mobility, which is frequently referred to as "migration." Internal migration also includes the movement of workers from rural to urban areas (Berden *et al*., 2013; Ehiogu & Dim, 2021).

Aworemi *et al.* (2017) assert that economic concerns, the desire for a higher standard of living, inadequate health care, and other conveniences, such as the availability of infrastructure in metropolitan areas, are the main drivers of labour mobility. Demographic factors like age, sex, marital status, occupation, degree of education, and so forth are additional variables that drive labour mobility (Omoruyi, O'Donoghue, & Igbinomwanhia, 2017). Due to the need for a higher quality of life, labour movement from rural to urban areas and vice versa will eventually result in higher economic output growth (Camille, 2020; Mistura *et al*., 2019; Sowunmi & Adeduntan, 2020). Mobility of labour is determined by various major macro-economic factors such school enrolment, unemployment, insecurity (Wajim, 2023), government investment on economic services and social services, consumer price index, access to energy. Healthy people may be more likely to save money than people in poor health because of the high-quality healthcare that comes from government assistance. Increased savings as a percentage of national income opens up more opportunities for investment, which could boost the country's output. In essence then, severe fall in purchasing power and basic amenities leads to low rate of rural-urban migration and subsequently weak production (Umoru & Yaqub, 2023).

2.2 Theoretical Review

2.2.1 Pull and Push Theory of Labour Mobility

The pull and push theory of labour mobility was first coined by Ravenstein precisely in 1885 in his famous known essay exposed

as the “law of migration”. The theory is predicated on the idea that people relocate, either geographically or professionally, due to a combination of circumstances that pull them into a new environment and push them out of their original one. According to the hypothesis, people move for a variety of reasons, but one constant is that some circumstances drive people to relocate while other variables draw them in different directions. The theory also suggests that the mobility experience of the movers vary (James, 2018). This demonstrates that people move from rural to urban areas or from one job to another for a variety of reasons, which is directly related to our research on the factors that influence labour mobility.

People typically migrate for a variety of reasons, and the push and pull theory has been used to explain why people migrate by identifying and differentiating these factors. Anthropologists that study voluntary human relocation have identified a number of factors that either directly or indirectly affect people's migration decisions. According to this theory, "push and pull" elements are the main drivers behind an individual's decision to engage in mobility in their labour pursuits. Push factors are those circumstances and elements that compel people to relocate or quit their existing job. Because a worker is more accustomed to his current residence than to his new one, he is likely to perceive push forces more precisely than pull variables. Push factors include the average cost of basic things, individual well-being, natural disasters or more minor difficulties, for example, climate and environment. Conversely, pull factors—such as political stability, improved economic prospects, a high standard of life, etc.—are what entice an employee to relocate (James, 2018).

2.2.2 Human Capital/Labour Mobility Theory

Lucas (1988) defined human capital as an endogenous source of economic growth at the level of the entire economy. Both the economy's overall productivity and the productivity of individual workers are impacted by the buildup of human capital. However, human capital's ability to adapt to economic opportunities is a crucial component in terms of regional growth. Both short-distance (commuting) and long-distance (migration) mobility are possible. The latter is a reallocation of production factors, whereas the former is typically a reaction to temporary imbalances between supply and demand. Indeed, according to neoclassical theory, labour mobility should slow economic growth. Nonetheless, highly skilled individuals

will be more likely to relocate, and their impact on the development of their new locations will be favorable (DaVanzo, 2016).

As a result, the collective decisions of the traveling workers can transmit knowledge across geographical boundaries. Due to reduced information costs, more accurate information, and lower psychological costs of attachment to their place of origin and its social networks, highly trained workers will typically experience lower costs and higher returns from mobility (DaVanzo & Morrison, 2019). High educated workforce expects more recompense for its investment in education and has larger projected net gains from migration than non-skilled workers. There is uncertainty regarding the precise causality of this link, even if labour mobility is a tool for increasing a region's level of knowledge and creativity. Do workers relocate in reaction to possibilities for regional knowledge, or is the regional knowledge base the product of labour mobility? This in and of itself is connected to how regions contribute to the creation of human capital.

2.2.3 Theoretical Framework

The theoretical framework of this study is eclectic as it cuts across two theories namely pull and push theory of labour mobility and the human capital/labour mobility theory. In effect, there are certain pull factors that make consumers and residents to move from rural to urban areas and vice versa. Also, some push factors compel people to relocate to other locations in search of better living conditions. For instance, presence of basic amenities in urban areas is a pull factor while the absence of basic amenities in rural areas is a push factor that compels a person to move to other locations. Thus, this study tries to identify the demographic variables that serve as pull or push factors for labour mobility. On the other hand, the productivity of individual worker is impacted by the build-up of human capital as explained by the human capital and labour mobility theory. The theory stresses the disadvantage of labour mobility as it exerts negative effect on economic output since skilled labour are most likely to migrate I search of better opportunities. Thus, the pull and push factors and the human capital theory can benefit or disadvantage both rural and urban areas and this study serves the purpose of ascertaining the exact determinants of labour mobility in Nigeria.

2.3 Empirical Review

In their study on the elements that influence labour mobility using the spatial approach system literature review method, Kurniawati, Mafruhah, and Putro (2023) came to the conclusion that age, education, and geography are the main causes of the rise in work transfers. They also discovered that job shifts from the farm industry to other highly mechanized industries because of the degree of training, business savvy, and disease risk. They recommended the embrace of technology to sustain competitive strategy and set the stage for long-term growth considering the effect of labour shifting from sector to sector.

Furthermore, Ayiti and Adedokun (2023) adopted correlation analysis and concluded that major causes of rural-urban migration in Ekiti State Nigeria include quest for urban jobs, good education, lack of social amenities in the rural area, low income, skill and basic health care, low agricultural productivity occasioned by insecurity, low income and standard of living, poverty. They suggested increased access to jobs and basic amenities for rural dwellers in Nigeria.

Alarima (2022) examined influencing factors for rural-urban migration of youths in Osun State Nigeria. Descriptive statistics (percentage and mean analysis) and inferential statistics (Pearson Correlation coefficient) were adopted in the study and the analysis concluded that poor electricity supply in the rural areas, bad condition of roads, absence of pipe-borne water were push factors driving the youth away from their communities into urban areas of Osun State Nigeria. This finding was after dividing the factors into pull and push factor. They recommended special incentives to be offered to private firms, business outfits and companies that operate in the rural areas of the state to boost employment opportunities and reduce rural migration.

A study by Roche *et al*. (2021) examined the factors that influence labour mobility in Northern Ireland by administering a questionnaire to a variety of subjects who fall into one of the following categories: mobile, extra-mobile, non-mobile, and control. The determinants used in the study included household age structure, family size, distance and location of economic opportunities, respondents' home area, kinship ties, educational qualifications, job category, housing. They employed probit model and came to the conclusion that labour mobility is closely linked to the life cycle of individual families. The heads of homes in the mobility groups are

younger and have recently tied the knot. Since many of these households were new or recently established, they might not be truly movers. Additionally, they found that mobility was impacted by the size and composition of the family unit, whereas labour mobility was unaffected by distance. They recommended for efficient records system to take count of workers movements.

Pursell (2021) studied the factors that influence male labour mobility in 84 urban labour markets. The study regressed gross in- and out-migration against the six independent variables (employment rate, earnings, new entrants, rate of withdrawals, male population and male civilian rate). The findings from multiple regression supported the theory that the economic and demographic features of the urban labour market have a significant impact on labour mobility. In areas where there were more new job prospects, he observed greater in-migration rates. The study came to the conclusion that labour mobility would seem to flow toward markets where there is an economic benefit and that it is very sensitive to differences in labour market circumstances.

Felsenstein (2020) investigated how labour migration and human capital affect regional innovation and growth. The study used the region's average wage to assess productivity, the lagged effect of schooling to measure human capital, the capital-labour ratio to measure physical capital, the regional share of foreign immigrants to measure migratory behavior, and high tech employment to measure innovation. Using the panel system GMM technique, the study discovered that the import of human capital through migration, which is a measure of labour mobility, has a negligible impact on growth. They suggested the admission of quality of labour to ensure productivity.

The causes and effects of cross-border labour mobility in France were examined by Camille (2020). Education, age, postsecondary education, commute duration, housing market circumstances, income, and unemployment rate were among the variables used in the study. Using the basic probit model, they discovered that, regardless of department, people between the ages of 30 and 39 have a higher chance of being movers. The survey also discovered that young adults are more ready to work overseas in order to obtain higher pay as they take out loans to purchase durable goods and houses. The study suggested opening of the foreign labour market and relaxation of the conditions for obtaining a cross-border permit across Europe.

Aminu (2020) did a study on determinants of participation and earnings in wage employment in Nigeria. The study used percentage analysis and found that traditional human capital variables – education (both total and disaggregated by levels), labour market experience and wage demand were the significant determinants of labour mobility in Nigeria. The study suggested increased access to capital through improved wage and improved labour conditions as factors that will equalize labour mobility between rural and urban areas.

The study of Bishop (2019) revealed that majority of the migrants from Giwa Local Government Area of Kaduna State migrated before the farming season to other northern states mainly to search for better jobs, education and to engage in trading. Using primary data from selected residents of Giwa local government, the study carried out Pearson correlation analysis and found that shortage of labour, family structure and gender were significant demographic factors that influenced labour migration in the study. Part of the recommendation from the study was the provision of basic amenities at rural areas including making access to education easy for rural dwellers.

Mistura *et al.* (2019) assessed the extent of labour mobility, its determinants and how it influenced remittance inflows and household poverty using the logit regression model, Propensity Score Matching and Linear Regression with Endogenous Treatment Effect Approach. The study found that labour mobility is a significant determinant of household remittance and that poverty reduction was the motivating factor for labour mobility in India. They recommended training of remittance recipient households in rural areas on proper investment ventures to improve their welfare.

Satope and Akintunde (2018) examined factor that drive labour mobility in Nigerian universities by carrying out a survey of 100 academic staff from selected universities. The data were analysed using multiple regression and descriptive statistics (percentages and tables). The result revealed that potentials of the new pension scheme and job security were the driving factors for labour mobility in Nigerian universities. The study recommended quality output from universities as well as retaining of staff through various incentives to prevent frequent labour mobility.

Omoruyi *et al.* (2017) analysed labour market and demographic characteristics in Nigeria. They employed the Nested logit model and they observed that demographic characteristics such

as age, sex, education, matrimonial status and fertility were key contributors towards labour market dynamics. The logit results also showed that labour market participation is higher among household heads employees who have university education, while male household heads earn higher average income than female household heads as a result of high tendency for labour migration amongst male heads of households. They recommended equal opportunities or male and female labour and increased access to education for all gender.

Yue (2016) examined the patterns, policies and challenges of regional labour mobility in the Association of Southeast Asian Nations (ASEAN) countries. The research was arranged in sort of a discussion on the patterns of regional labour mobility. The study noted that demographics such as education, race, state of health and family structure were significant factors that determine in labour surpluses and shortages in both rural and urban areas and that these factors serve as the main factors motivating labour mobility in Southeast Asian Nations region. The study advocated the need for regional and bilateral cooperation to protect workers from exploitation by recruitment agencies in home countries.

Folawewo (2016) studied the determinants of informal sector labour demand in South Western States of Nigeria. Two different methodological approaches were used: conventional Ordinary Least Squares (OLS) and Instrumental Variable (IV) estimation techniques; while the probit model determined the probability of employees' absorption by firms. Education, age, experience, tenure and sex were the explanatory variables while wage was the dependent variable. The results found that labour demand decision in the informal sector was influenced by workers' characteristics, such as age, education, gender, experience, and tenure, while firms' characteristics such as investment level, profit and cost of capital were found not to be important in making labour demand decision. The study recommended employment boosting
Programmes.

The empirical review has highlighted the few studies that dwelt on the determinants of labour mobility both in Nigeria and outside of Nigeria. Evidence from the studies show that majority were mainly focused on demographic factors that determine labour mobility while neglecting the potential effects of macroeconomic variables on labour mobility in Nigeria. This study fills this gap by introducing school enrolment rate (annual rate), government expenditure, inflation

rate and electricity access as variables representing macroeconomic determinants. Additionally, this study observes gap in terms of use of secondary data in analyzing the determinants of labour mobility in Nigeria. Updated studies have dwelt more on primary data which creates a glaring gap in economic literature. The fusion of data from the National Bureau of Statistics (General Household Survey) and the World Bank fills this gap in secondary data requirement.

3. Methodology

The ex-post facto research design is used for this study. This is due to the fact that studies that rely on secondary sources of data, primarily from the field of economics, use secondary time series data. The study employed previously obtained and stored data, and the approach tries to determine the relationship between a dependent variable and a set of independent factors. The research strategy further comprises the use of econometric technique ARDL model to test the features of the data in order to determine the suitability for predicting purposes. In order for the ARDL model assumption to hold, the statistical properties of the data must be constant, not change over time, and have mixed stationarity. ARDL analysis is a statistical modeling technique for estimating the short and long run association between a dependent variable and a set of independent variables. A linear regression model is estimated using data for the period 1990 through 2023, or 34 years, which makes it simple to forecast or predict the outcome of the dependent variables.

3.1 Model Specification

Mistura *et al.* (2019) did a gender analysis of labour mobility and household poverty in Nigeria. Their study adopted demographic variables such as household location (rural/urban), occupation, sex, age, family structure. These variables were the determinants of labour mobility while per capita expenditure in naira was the dependent variable. Logit model for drivers of labour mobility as used in the model of Mistura *et al.* (2019) stated as:

LM = *f*(determinants of labour mobility) (1)

This can be expanded as:

$$LM_i = f(MHC_i + MC_i + LD_i + WD_i) \quad (2)$$

Where *LM* is labour mobility represented by a propensity score matching '1' if migrant is working after migration and '0' if otherwise. *MHC* is migrant's household characteristics such as

household size, ownership of (non) agriculture land etc., *MC* is migrant characteristics such as age, years of education, access to media, *LD* is location dummies such as region and area of residence and *WD* represent indicators of the wealth of the household proxied with per capita household expenditure.

By way of modification, this study advances a model that captures demographic determinants of labour mobility as well as macroeconomic determinants. Equation (2) is modified thus:

$$LM_i = \beta + \sum X_{ij} + \mu \quad (3)$$

Where $\sum X_{ij}$ is the sum of the scale of the regression represented in equation [4].

$$LM_i = \beta_0 + \beta_1 AG_i + \beta_2 SX_i + \beta_3 MS_i + \beta_4 ED_i + \beta_5 CO_i + \beta_6 GL_i + \mu_{it} \quad (4)$$

Where: LM is labour mobility (proxied with difference between labour force urban and labour force rural)

AG = Age of head of household

SX = Sex of head of household

MS = Marital status

ED = Education level

CO = Current occupation of head of household

GL = Geographic location of household

Data on the demographic determinants and labour mobility are sourced from NBS (2023) demographic statistics survey. The sample was drawn from residents of South East Nigeria as captured in the General Household Survey (GHS-Panel) data from the National Bureau of Statistics. This captures the requirements for the first objective of the study.

Furthermore, to achieve the other objectives 2 to 5 of the study, the macroeconomic determinants of labour mobility is modelled by identifying the push and pull factors in line with the theoretical postulation stated in World Bank (2022).

$$LM_i = f(SSE_i + GEX_i + INF_i + ACC_i) \quad (5)$$

Where: LM = Labour mobility (proxied with difference between labour force urban and labour force rural)

SSE = Secondary school enrolment rate (annual rate)

GEX = Government expenditure on economic, social and community services

INF = Inflation rate (measured by the consumer price index)

ACC = Access to electricity and other basic amenities (percentage/annum)

Representing the model in an econometric form, we have:

$$LM_i = \propto_0 + \propto_1 SSE_t + \propto_2 GEX_t + \propto_3 INF_t + \propto_4 ACC_t + \mu_t \quad (6)$$

Where: α_0 = Intercept of the model

$\alpha_1 - \alpha_4$ = Unknown coefficients of the model to be estimated

t = Time variant i.e. 1990-2023

μ_t = Stochastic error term at time 't'

The distributed Lag form of the model is specified as:

$$LM_t = \propto_0 + \propto_1 \sum_{j=i}^{k} LM_{t-1} + \propto_2 \sum_{j=i}^{k} SSE_{t-1} + \propto_3 \sum_{j=i}^{k} GEX_{t-1} + \propto_4 \sum_{j=i}^{k} INF_{t-1} + \propto_5 \sum_{j=i}^{k} ACC_{t-1} + \varepsilon_t \quad (7)$$

Where the subscript 't-1' is the one period lag of the variables and ε_t represents the stochastic error term. Data on school enrolment, government expenditure, inflation rate and access to electricity and other basic amenities are from the World Development Indicator (WDI) – the data base by the World Bank (2023). Importantly, the data were transformed into logarithmic forms for the purpose of standardization and to ensure that their statistical properties remain constant over the time period of study. The transformation made sure that the data became standardized thereby avoiding a spurious regression.

4. Results and Discussion

The descriptive statistics shows the statistical properties of the data which are summarized under the mean, standard deviation, Skewness, kurtosis and normality distribution of the data. The descriptive statistics are summarized in Table 1.

Table 1: Descriptive Statistics

	LM	GDP	SSE	GEX	INF	ACC
Mean	35.1632	21.0494	36.8741	709.9624	18.1900	47.8862
Median	34.2900	14.8950	34.8500	354.8200	12.9450	48.9850
Maximum	48.7400	75.2700	54.6200	2352.690	72.8400	59.5000
Minimum	28.5300	5.59000	23.4000	3.980000	5.39000	27.3000
Std. Dev.	5.52001	15.1933	11.3747	737.1558	15.8740	8.15446
Skewness	0.75435	1.71021	0.07855	0.781956	2.20762	-0.49139
Kurtosis	2.75125	6.14031	1.42232	2.383026	6.95421	2.44753
Jarque-Bera	3.31224	30.5444	3.56113	4.004178	49.7676	1.80067
Probability	0.19088	0.00000	0.16854	0.135053	0.00000	0.40643

Source: Eviews 9 Output

The average percentage of labour mobility for the period is 35.16% while GDP growth rate averaged 21.05%. secondary school enrolment averaged 36.87%, government expenditure has mean of 709.96 billion, inflation rate was 18.19% while on the average, 47.89% of the population have access to electricity. The standard deviation for labour mobility (5.52) and access to electricity (8.15) are small and this implies that the data are clustered around the mean thus showing small dispersion. The other variables have high standard deviation values which shows high level of dispersion and a wide spread data. All the data are positively skewed except for access to electricity which is negatively skewed.

The probability value of the Jarque Bera statistics for GDP and INF are less than 0.05 critical value which implies that the data are not normally distributed. Thus, GDP and INF are not normally distributed. However, the *p-value* of the Jarque Bera stat. for LM, SSE, GEX and ACC are greater than 0.05 critical value which implies that the data are normally distributed. Thus, the sample and Skewness for LM, SSE, GEX and ACC are not significantly different from the expected outcome under a normal distribution. Therefore, a greater percentage of the data follows a normal distribution. As a result of the non-uniformity in the distribution of the data, we normalize the data by taking the natural logarithm values of the data and using them in the estimation.

Table 2: Unit Root Test

Variable	ADF @Level	ADF @First Diff.	Order of Integration
GDP	-2.3198	-7.9558*	I(1)
	[0.1722]	[0.0000]	
Labour Mobility (LM)	-2.2971	-3.1279*	I(1)
	[0.1789]	[0.0344]	
Sec School Enrolment (SSE)	8.3567*	-4.3742*	I(0)
	[0.0183]	[0.0017]	
Government Expenditure (GEX)	1.9193	-4.4397*	I(1)
	[0.9997]	[0.0013]	
Inflation Rate (INF)	-4.8536*	-1.3479	I(0)
	[0.0236]	[0.5274]	
Access to Electricity (ACC)	-2.8409	-5.6399*	I(1)
	[0.0650]	[0.0001]	

Source: Result Extracted from Eviews Output

Table 2 shows that GDP, labour mobility (LM), government expenditure (GEX) and access to electricity (ACC) are integrated after first differencing i.e. they are stationary at I(1). However, school enrolment (SSE) and inflation rate (INF) are both stationary at level and are said to be integrated at order I(0). This implies that their order of integration is mixed and as a result, the long run test follows the ARDL Bounds test approach.

Table 3: ARDL Bounds Test for Cointegration

Null Hypothesis: No long run relationship exist		
Test statistic	**Value**	**k**
F-statistic	9.484431	3
	I(0) Bound	**I(1) Bound**
Critical Value Bounds at 5%	2.860	4.010

Source: Result Extracted from Eviews Output

Given that the ARDL F-statistic is greater than the critical values at I(0) and I(1) bounds, the null hypothesis of no long run relationship is rejected. The study concludes that there is long run relationship between macroeconomic variables and labour mobility in Nigeria. In other words, there is ample time for the selected macroeconomic variables to interact to bring about the desired changes in labour mobility in Nigeria.

Table 4: ARDL Short Run Model Estimates

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.***
C	23.90806	6.155478	3.884030	0.0008
LM(-1)	0.588694	0.088462	6.654796	0.0000
SSE	-0.031074	0.008941	-3.475450	0.0246
GEX	-0.000379	0.000503	-0.752449	0.4598
GEX(-1)	0.000224	0.000756	0.296289	0.7698
GEX(-2)	-0.001161	0.000547	-2.123380	0.0452
INF	0.028588	0.005769	4.955452	0.0108
ACC	0.163201	0.034991	4.664085	0.0146
ACC(-1)	-0.089885	0.038049	-2.362351	0.0274
ACC(-2)	-0.079006	0.031333	-2.521486	0.0194
CointEq(-1)	-0.411306	0.088462	-4.649535	0.0001
R-squared	0.926289	F-statistic		18.35786
Adjusted R-squared	0.904940	Prob(F-statistic)		0.015800

Source: Result Extracted from Eviews Output

Table 4 shows that secondary school enrolment and government expenditure exert negative effect on labour mobility in the current year. Both variables decrease labour mobility by 0.0311 and 0.0004 units respectively. While secondary school enrolment significantly decreased labour mobility (p-value = 0.0246), the negative effect of government expenditure on labour mobility was not significant (p-value = 0.4598). The lagged coefficients of government expenditure show that in the previous year, it increased labour mobility but not significantly. However, there was a significantly negative effect of government expenditure on labour mobility in the previous two years (second lagged period). Inflation and access to electricity proved to be positively related to labour mobility in the current years increasingly the rate of rural – urban labour mobility significantly by 0.0286 and 0.1632 respectively. Jointly, the macro-economic variables significantly accounted for up to 92.63% of the changes in labour mobility for the period reviewed.

Table 5: ARDL Long Run Model Estimates

Long Run Coefficients				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
SSE	0.0756	0.0670	1.1281	0.2715
GEX	-0.0014	0.0006	-2.2254	0.0366
INF	0.0209	0.0131	1.5973	0.1245
ACC	-0.5643	0.1094	-5.1596	0.0000
C	58.1272	3.7817	15.3708	0.0000

Source: Result Extracted from Eviews Output

Table 5 shows the long run estimates of the distributed lag model. The long run estimates do not take account of the lagged periods. The estimates show that secondary school enrolment (SSE) increased labour mobility by 0.0756 units, but the increase was not significant (p-value = 0.2715). Government expenditure exerted a significantly negative effect on labour mobility decreasing it by 0.0014 units (p-value = 0.0366) while inflation rate was a positive but not a significant determinant of labour mobility (coefficient = 0.0209, p-value = 0.1245). Access to electricity exerted negative effect on labour mobility and the p-value of 0.0000 indicates that the negative effect of electricity access on labour mobility was significant in the long run.

Table 6: Ordinary Least Square Estimation Result

Dependent variable: Labour Mobility (LM)					
	Coefficient	**Std. Error**	**t-statistic**	**p-value**	**Remark**
Constant	39.667	8.6674	--	0.0001	--
Age	0.0368	1.0846	0.0339	0.9732	Positive but not significant
Sex	-1.0778	2.1699	-0.4967	0.6234	Negative but not significant
Marital Status	0.7694	0.1226	6.2756	0.0116	Positive and significant
Education Level	3.5954	1.0930	3.2894	0.0004	Positive and significant
Current Occupation	0.3406	0.0998	3.4142	0.0080	Positive and significant
Geographic Location	1.5582	0.3618	4.3068	0.0150	Positive and significant
Adjusted R-squared	0.6694				
F-statistic	0.3356				
DW-statistic	1.9428				

Source: Result Extracted from Eviews Output

Excerpt from Table 6 indicates that marital status, education level, current occupation and geographic location are positive and

significant demographic factors that determine labour mobility in Nigeria. This is evidenced in their probability values (represented in parenthesis) which are less than 0.05 critical value. Age positively influenced labour mobility but was not a significant determinant while sex was not a significant determinant of labour mobility in Nigeria. Collectively, the demographic factors accounted for up to 66.94% of the changes in labour mobility.

4.1 Discussion of Findings

The discussion is centered on the specific objectives of the study. The first objective tried to ascertain the demographic factors that determine labour mobility in Nigeria. The results showed that marital status, education level, current occupation and geographic location are positive and significant demographic factors that determine labour mobility in Nigeria. This implies that the level of education and marital status are significant motivators that drive labour mobility in Nigeria. The implication of this finding is that a single person exercises more freedom over his decision to change location from rural to urban areas. However, married persons may be constrained by family. Also, education, occupation and rural settlement serve as significant determinants of labour mobility. This finding is in consonance with the finding made in Folawewo (2016) and Omoruyi *et al.* (2017) where-in the study held that the decision to cater for the family and education level drive the motivation to migrate to urban areas.

The second objective investigated whether secondary school enrolment was a significant determinant of labour mobility in Nigeria. The analysis revealed that secondary school enrolment decreased labour mobility significantly and so is not considered a significant determinant of labour mobility in the short run. In the long run, secondary school enrolment exerted positive effect on labour mobility but the positive effect was not significant. The implication of this finding is that over the long run period, secondary school enrolment serves as a positive determinant of labour mobility, and it drives the motivation to move from rural to urban areas but the motivation to move is not significant given the fact that schooling may not be the innate desire of the rural populace. Given that occupation is a significant factor that determines labour mobility, the non-significance of secondary school enrolment may just be explained. This agrees with the assertion of Alarima (2022) who found that

access to education does not drive youths' decision to migrate from rural areas rather improved living condition are pull factors that attract rural youths to the urban centres. Also, Roche *et al.* (2021) and Ayiti and Adedokun (2023) held that desire for quality education is a significant determinant of labour mobility. Also, Camille (2020) and Bishop (2019) found schooling to be a significant demographic factor that influenced labour migration.

The third objective determined the effect of government expenditure on labour mobility and in Nigeria. The analysis found that government expenditure was a positive but not a significant determinant of labour mobility in the short run. The long run analysis showed that government expenditure significantly decreased labour mobility in Nigeria for the period reviewed. Similarity of finding showing a significantly negative effect of government expenditure on labour mobility is found in the work of Satope and Akintunde (2018). These studies have a common finding that government intervention through the provision of basic amenities in rural areas can decrease labour mobility and enhance quality of life in rural communities.

Further analysis revealed that the level of inflation and access to electricity/other basic amenities (as represented in the fourth and fifth objectives) were found to be positive and significant short run determinants of labour mobility in Nigeria. This finding is in consonance with the findings made in Kurniawati *et al.* (2023); Roche e*t al*. (2021); Alarima (2022). The long run analysis revealed that while inflation rate increased labour mobility but not significantly, access to electricity decreased labour mobility significantly. Thus, there is opposing findings from the short and long run results. The implication is that while inflation and electricity are immediate factors that determine the decision of households and individuals to move from rural to urban settlements, the long run effect of electricity access discourages labour mobility as is the case with Nigeria. Ayiti and Adedokun (2023) concluded that rural to urban mobility of labour is driven by monetary needs of households. Thus, there is strong evidence to prove that price level (inflation rate) is a positive determinant and significant short run determinant of labour mobility while access to electricity is not a strong negative determinant of labour mobility.

5. Conclusion and Recommendations

The conclusion emanating from the findings is that demographic variables such as marital status, education level, current occupation and geographic location of head of household are significant demographic determinants of labour mobility in Nigeria. Thus, a resident who is well educated has increased tendency of moving from rural to urban areas in search of employment than one who is not educated. Also, inflation level and access to electricity serve as motivating factors for workers to change location in search of better opportunities because prices are more affordable in rural areas than in urban areas. Thus, when a worker perceives price of commodities to be cheaper in rural areas, there are chances that such consumer will prefer to move to rural areas in search of survival while access to basic amenities such as electricity will pull such consumer to urban areas in search of better living conditions.

Thus, this study affirms that price level can forge a significant alliance with other economic factors such as basic needs (electricity, health, education) to drive rural-urban migration. While the desire for schooling serves as a significant factor driving rural to urban labour mobility, government expenditure proved to be the least factor motivating rural to urban labour mobility. Given the least significance of government expenditure in activating labour mobility and the high significance of demographic variables in driving labour mobility, this study recommends as follows:

i. The Nigerian government should ensure that price of basic goods are stabilized especially in rural areas so as not to create the impression of price differential in rural and urban areas. This can be enforced by effective functioning of the price control board.

ii. With access to electricity and other basic amenities being significant short run determinants of labour mobility in Nigeria, government should invest more in basic infrastructure at the rural level in order to discourage the increasing rate of rural-urban migration.

iii. Secondary school enrolment in rural schools should be increased by providing quality infrastructure that will make rural schools appealing to rural dwellers. This also boils down to government increased expenditure on basic infrastructure.

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