MIGRATION IN WEST AFRICA: AN ANALYSIS OF PULL AND PUSH FACTORS

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ABSTRACT
The purpose of this paper is to analyze the factors that influence net migration in West Africa. Panel data on variables like net migration, wage rate, and unemployment in four selected West African countries (Nigeria, Ghana, Sierra Leonne and Senegal), spanning a period of twenty-five years (1997-2021) were collected from secondary sources like the World Bank, and analyzed using the fixed effects model with cluster- robust standard errors. The results of the study revealed that GDP per capita has a negative but non-significant effect on net migration ($p > 0.05$). Wage rate has a positive but non-significant effect on net migration ($p > 0.05$). The effect of unemployment on net migration is negative and statistically significant ($p < 0.05$). The study recommends that the government and policy makers should create more jobs and also increase wages in other to discourage emigration and to attract human capital into the affected countries, thereby increasing net migration. The work is original because unlike most studies that were country-specific, this study made use of panel data collected on four African countries (Nigeria, Ghana, Sierra-Leone and Senegal). The study also employed the fixed effects model with cluster robust standard errors.

Introduction

Migration has become a very important subject of discussion in recent times. Ita (2020) noted that emigration is still a significant issue in West African countries. The movement of people within the West African sub-region is a long-standing phenomenon that primarily occurs within the region. More than seventy percent (70%) of migrants thought to be from the sub region are officially recognized as residents of other West African nations (UNDESA, 2018). West African countries have been experiencing the issue of both regular and irregular emigration.

Net migration is the net total of migrants during the period, that is, the number of immigrants minus the number of emigrants, including both citizens and non-citizens. (World Bank, 2024). More individuals moving in than leaving the country is known as positive net migration, and it might be a sign that people believe the economy offers better opportunity for personal growth or employment. This immigration wave may help create a competent

and varied labor force, which is good for the economy.

A thorough analysis of the factors that influence net migration dynamics, that is the drivers of migration in West Africa is of paramount importance. This is because the condition of net migration has serious implications for the labour market, human capital formation and human capital accumulation.

Kuhnt (2019) distinguishes three groups of these drivers: macro-level, meso-level, and micro-stage drivers. Drivers at the Meso-level include things like technology, smuggling, information, and migrating lifestyle; drivers at the Micro-level are things like age, character, traits, and education. On the other hand, macro-stage variables include things like financial opportunities, state welfare, conflicts, and management and policies pertaining to migration.

The unemployment situation in Africa has been a pressing issue. According to International Labour Organization - ILO (2024), more than seventy (70) million youths in Africa are unemployed, and are not in education or training. Moreover, most unemployed young people want to work but are unable to do so.

If these issues are not addressed, there will be increase in both regular and irregular migration from West Africa to Europe and other regions in search of better economic conditions, thus, leading to negative net migration. This can result to human capital flight and brain drain, as many health workers and other skilled workers have been leaving the country. While certain studies have reviewed the problem of emigration (Okunade & Awosusi (2023)), other researchers (Oni, et al. (2024),Adebayo & Akinyemi, (2022)) focused on individual countries.

This study is unique in the sense that it employed panel data estimation technique, specifically, the fixed effects model with robust standard errors.

Statement of the Problem

Economic factors such as unemployment and low level of wages have been persistent in West African countries. Various studies have addressed economic factors as drivers of migration. However, the labour market factors have not been thoroughly examined in the aspect of their effects on net migration balance and dynamics. This study will focus on economic factors in the labour market such as unemployment and wage rate and their effects on net migration balance in West African countries. Therefore, the main objective of this study is to analyze the effect of GDP per capita, wage rate, unemployment and the net migration in four West African countries (Nigeria, Ghana, Sierra Leonne and Senegal) from 1997 to 2021.

Conceptual Clarification

Net Migration

Net migration can be defined as the net total of migrants during a particular period, that is, the number of immigrants minus the number of emigrants, which includes both citizens and non-citizens. (World Bank, 2024). When there are more individuals moving in than leaving the country, there is positive net migration. This is likely to happen when people believe the economy offers better opportunity for personal growth or employment. However, when the number of people leaving is greater the number of people coming, in, there is negative net migration. This may occur because of poor economic conditions.

Theoretical Framework

The Neo-classical Theory of Migration

Neoclassical theory of migration analyzes migration movements from the economic perspective. Scholars that originally developed this theory used it to explain migration in the process of economic development and this could be found in the works of Hicks (2011), Lewis (1954), and Akande (2020). These studies confirm the notion that migration takes place as a result of difference in wages across markets or countries that emerge from specific stages of labour market stress.

The geographical variations in labor supply and demand form the basis of the neoclassical migration theory. The microeconomic theory of decision-making, which operates under the idea that people move to locations with the highest expected net monetary returns on their human capital, is the basis of this macroeconomic approach (Todaro, 1976).

This study is unique and different from other studies in its application of the neoclassical theory. By analyzing macroeconomic variables

such as unemployment, wage rate and GDP per capita for a period of twenty-five (25) years in more than one Western African country. Thus, he study adapts the neoclassical theory in an innovative manner.

Empirical Review

A number of studies analysed the various factors that drive migration. Some of these studies are reviewed below:

Lanati & Thiele (2023) investigated the relationship between income per capita and emigration to OECD countries. Panel regression was employed. The results indicated that there is universal negative association between income per capita and emigration. The result is in consonance with Olubiyi (2021) which used Generalized Method of Moments (GMM) to identify the drivers of emigration in each skill. The results revealed that economic size, income differentials and remittances play positive and important role in the case of emigration of high skill labour while income differentials and population are significant in driving emigration of low skill workers.

Nishimura & Czaika, (2023) examined the influence of structural drivers on both internal and international migration. Meta-analysis was employed. The results revealed that indicators such as income or GDP, education, migrant networks, gender, age, and family characteristics are the most scrutinized factors shaping migration patterns. The drivers exhibited statistical significance about 50% of the time.

Barnett and Nam (2023) investigated the international migration network and its changes from 1990-2017. The study employed Multiple regression quadratic assignment procedure. The results revealed that the network of antecedent factors such as colonial history, political stability, economic differences, language, transnational interactions, geography, student flows, trends, internet flows and remittance constituted approximately 11% of the migration network distribution when chain migration was excluded and 16.5% when it was included.

Okunade and Awosusi, O.E. (2023). investigated the endogenous and exogenous variables responsible for 'japa syndrome' in Nigeria. Thematic analytic framework was used. The results revealed that the various responsible for emigration include: study as a means to an end, lingering security issues, easy access to jobs, declining economic condition, career projection, migration delusion and obsession, exhaustion, and the quest for a secured future.

Nobahar (2021) investigated the relationship between unemployment and net immigration. The study revealed that unemployment has a negative direct effect and a positive spatial spillover effect on net migration; implying that however increasing unemployment in a city can decrease the net migration in that city, the net migration in the nearby cities will rise.

Iqbal, et al (2021) which used Logistic Regression to examine the current trend and determinants of migration intentions in China. The results indicated that Higher wages outside China and low wages within China are considered as the top reasons to leave China.

Onah,, et al. (2022). investigated the factors associated with the emigration of physicians from Nigeria. The study employed multiple regression analysis. The results of the study revealed that the reasons for emigration include poor remuneration, rise in insecurity and inadequate diagnostic facilities. This is in consonance with the results of Adebayo, A. & Akinyemi, O.O. (2022) which employed mixed method to assess the factors that influence emigration intention of the doctors in Nigeria. The results revealed that the main factors in receiving countries that propelled resident doctors from Nigeria to emigrate include better working and living conditions, good salary, and the opportunity for career advancement in destination countries.

Most of the above-mentioned studies were country specific. However this study makes use of panel data on four West African countries, over: Nigeria, Ghana, Sierra-Leonne and Senegal).It also employs the fixed effects model with cluster robust standard errors. The net migration patterns are analyzed in this paper using a fixed effects model, which accounts for time-invariant characteristics within certain areas or nations. It looks at immigration and emigration at the same time, in contrast to many studies that only look at one or the other, providing a thorough understanding of how economic factors affect net migration as a whole. With strong standard errors and a strict methodology, it reduces data variability and biases. It covers different countries, in contrast to single-country studies, offering a more comprehensive view of migration patterns in

various economic circumstances. Through an examination of push and pull factors such as Gross Domestic Product (GDP) per capita, wage rates, and unemployment, this study offers fresh perspectives on the intricate dynamics propelling worldwide population shifts.

Methodology

The final model used in this study is the fixed effects model with cluster – robust standard errors. However, in order to select the best model, the panel least squares method was employed in analyzing the Pooled OLS Model, Random Effect Model and Within-groups Fixed Effects Model.

$Y_{it} = \beta_0 + \beta_1 x_{it} + \varepsilon_{it}$ ……i (Pooled OLS Model)

$y_{it} = \beta_0 + \beta_1 x_{1it} + \beta_2 x_{2it} + \lambda_i + u_i$……2 (Random Effect Model)

$y_{it} - \overline{y}_i = \beta_1(x_{1it} - \overline{x}_{1i}) + \beta_k(x_{kit} - \overline{x}_{ki}) + \mu_{it} - \overline{\mu}_{it}$……3 (Within-groups Fixed Effects Model)

The three models were estimated and the fixed effects model with cluster-robust standard errors was chosen. Moreover, it was This is because use of fixed effects model controls for time-invariant unobserved factors (For example, cultural and institutional differences between the various Sub-Saharan countries), providing more robust estimates of the effects of wage rate, unemployment and GDP per capita on net migration.

Results and Discussion

Table 1. Results of Panel Data Analysis. Dependent Variable: NETMIG

	Pooled OLS	**Random Effect**	**Fixed Effect**	**Fixed Effects Model with Cluster-Robust Standard Errors**
Constant	19778.12 (0.85)	19778.12 (0.99)	1089118.00 (5.15)***	1089118 (4.83)**
LNGDPPCAP	2901.19 (1.53)	2901.185 (1.77)	-135819.00 (-3.11)***	-135819 (-2.13)
LNWAGR	-2746.03 (-2.67)***	-2746.03 (-3.11)***	95218.44 (1.08)	95218.44 (0.81)
LNUNEMP	-31304.14 (-2.44)***	-31304.14 (-2.84)***	-42236.19 (-3.63)***	-42236.19 (-4.43)**
Breusch-Pagan LM test	-	38.13 (0.0000)***	-	-
Hausman Test	-	-	36.48 (0.0000)**	-
Observations	100	100	100	100
Multicollinearity (vif)	-	-	1.39	-

Heteroskedasticity ($_{x}^{2}$ – stat)	-	-	1579.21 (0.0000)***	-
Serial Correlation (F-Stat)	-	-	199.430 (0.0008)***	-
R-squared	-	-	-	60%
P value (F statistic)	-	-	-	0.0215**

Figures in the parenthesis are t-statistics, expect for Breusch-Pagan LM test, Hausman test, Heteroskedasticity and Serial Correlation tests, which are p-values.

** and *** indicate the respective 5% and 1% significance levels, respectively.

Source: Author's Computation (2024).

Table 1 presents the summary of the pooled OLS Model, Random Effects Model (RE), Fixed Effects Model (FE) Model, and the Fixed Effects Model with Cluster-Robust Standard Errors Model estimations. The results of the Breusch Pagan LM test revealed that Random effects model was more efficient than fixed effects model ($p < 0.05$).

The results of the Hausman test revealed that Fixed effect model was more efficient. The heteroscedasticity and serial correlation tests indicate that Robust OLS Model with fixed effects is the most appropriate model. Therefore, this model will be interpreted.

The results of the Fixed Effects Model with Cluster Robust Standard Error Regression indicate that GDP per capita has a negative but non-significant effect on net migration ($p > 0.05$). The presence of a negative coefficient indicates that as GDP per capita rises, net migration declines. This implies that a higher GDP per capita could be linked to a decrease in the number of individuals relocating to the region. The absence of significance ($p > 0.05$) indicates that there is insufficient evidence to confirm that the connection between GDP per capita and net migration differs from zero. Simply put, fluctuations in GDP per capita cannot consistently forecast changes in net migration within this specific model. Despite the negative coefficient, the lack of statistical significance implies that other variables might have a greater impact on determining net migration patterns. Elements like job opportunities, housing expenses, standard of living, and demographic shifts may have a more substantial influence on migration decisions than GDP per capita by itself.

Wage rate has a positive but non-significant effect on net migration. This result is in consonance with that of Iqbal, et al (2021), Onah, et al. (2022), Olubiyi(2021), and Adebayo and Akinyemi (2022).This is also in agreement with Pissarides and Mcmaster (1990) which asserted that if there is an increase in a region's relative wage, the gain from moving out decreases and the gain from moving in increases, therefore, the net migration of the region increases.

The impact of unemployment on net migration is statistically significant ($p < 0.05$). The inverse correlation indicates that an increase in unemployment leads to a decrease in net migration. This result is in consonance with that of Okunade (2023) and Nobahar, et al. (2021). Elevated unemployment levels usually result in reduced job prospects, which in turn discourage migration to those areas. Individuals are generally disinclined to relocate to regions with high unemployment unless they have specific motives, such as family connections or other non-economic considerations.

Thrust of the Work

The thrust of this work hinges on the fact that the study's consideration of time-invariant features within countries, that is, the study's

econometric method—which employs fixed effects models with robust standard errors—addresses the limitations of earlier migration studies. This methodological choice enables a precise estimation of the influence of economic variables on net migration while controlling for unobserved heterogeneity. The results highlight the significance of methodological accuracy in analyzing migration dynamics, which have great influence on policy recommendations and theoretical interpretations.

This study advances quite a number of disciplines, particularly Development Economics, International Economics, International Relations, Political science, and Political Economy, by means of the econometric analysis of variables that have effect on net migration in West African countries.

This work emphasizes the need to create jobs in order to retain human capital. It strengthens development economics by showing how unemployment drives migration. The results suggest concentrating on economic stability and creation of jobs. This insight helps in the creation of effective policies that aim at stabilizing economies and discouraging emigration. The result of this is the achievement of sustainable development.

The research contributes to the field of international economics by examining the effect of wage rates and unemployment on migration, which are pivotal to the understanding of labor mobility. The results indicate that wage differentials and opportunities for employment are major drivers of migration decisions. These results are in consonance with the neoclassical theory of migration. They also indicate the importance of a better understanding of how wage and employment conditions interrelate with migration patterns.

In the context of international relations, the findings of this research are relevant in the aspect of as examining regional migration trends and their effects on inter-country relations within West Africa. High emigration rates and their connection with unemployment and wage rates can alter bilateral and multilateral relations, as nations contend with the issues of brain drain and shortages in labour supply. The study highlights the significance of cooperative regional policies to manage migration efficiently and promote stability.

The focus of this study on the economic drivers of migration offers significant contribution to political economy and political science. It analyzes the significance of economic policy in determining migration outcomes and highlights the need for political motivation to tackle unemployment and wage disparities. By proving that unemployment significantly discourages migration, this investigation suggests that policy interventions directed at reducing unemployment could play a key role in managing migration flows and enhancing regional stability.

This study crossed the borders of discipline by linking econometric analysis with Political economy, Political Science, International Relations, International Economics and Development Economics. It stresses the need for an all-encompassing resolution to address economic, political, social, and regional and international issues that are driving migration in West Africa. It challenges prevailing schools of thought and provides useful policy recommendations.

Conclusion and Recommendations

The results of this study indicate a strong relationship between net migration trends and economic considerations. Greater GDP per capita tends to reduce net migration, indicating that lower amounts of population movement may occur in areas with stronger economies. On the other hand, higher wages have a positive relationship with higher net migration, suggesting that economic opportunities attract migrants. Higher levels of unemployment also discourage people from migrating to West African nations, highlighting the implication of employment availability in influencing migration decisions.

Policy makers should create and implement policies that will enable them to effectively control migration and stimulate the development of the economy. First, when it comes to wage policies, governments must take into account measures that encourage fair wage growth across all industries. This could entail encouraging industries to pay competitive rates in order to draw in skilled workers and establishing minimum wage rules that take into account local economic situations.

The aim of employment policies should be to reduce unemployment rates by encouraging entrepreneurship, implementing job creation

initiatives, and offering vocational training programs. Investments in agriculture and infrastructural projects can generate long-term job opportunities, stabilizing domestic economies and attracting prospective immigrants.

In conclusion, incorporating these recommendations into all-inclusive policy frameworks can influence economic variables to encourage human capital acquisition, control the dynamics of migration, and boost sustainable development for the mutual benefit of sending and receiving countries and regions.

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