Journal of Global Economics and Business **July 2023, Volume 4, Number 14, 76-94**
ISSN: Print 2735-9344, Online 2735-9352

LABOUR EMIGRATION AND INCOME INEQUALITY EFFECT ON SENDING COUNTRIES: EVIDENCE FROM NIGERIA

Ebunoluwa O. Oyegoke,
Nile University of Nigeria,
ebunoluwa.oyegoke@nileuniversity.edu.ng

Abstract

Labour emigration is considered an alternative source of income and earnings in developing countries, particularly, those with large populations and high unemployment rates. This paper empirically investigates the relationship between income inequality and labour emigration, and the effects of labour emigration on income inequality in the source country using Nigeria as evidence. Annual time series on income inequality (Gini coefficient), remittance inflow, net migration rate and others are variables used for the model covering the span of 41 years (1980-2021) Correlation Matrix and the Ordinary Least Square (OLS) models are employed to estimate the model. The findings reveal that the correlation relationship between labour emigration and income inequality in sending country (Nigeria) is a very weak positive one (0.39). While the OLS shows an insignificant positive relationship. This implies that a direct significant link between income inequality and labour emigration at the macro level was not established. Therefore, labour mobility should not be restricted, but rather restructured to maximise the full benefits at the macro level in Nigeria.

Keywords: *Income Inequality, Labour Emigration, Gini Coefficient.*

DOI: 10.58934/jgeb.v4i14.176

1. Introduction

Developing countries tend to experience a high level of inequality which is more pronounced in the income gap between the rich and the poor and their ability to co-exist together. One major determining factor of economic development which has not received much attention is income inequality. Labour emigration has been considered as an alternative source of income and earnings in developing countries, particularly, those with large populations and high unemployment rates. Hence, the persistent outward migration of labour from developing countries to more developed countries is usually (but not limited to) for economic gains and incentives. However, there's a consequential effect of a wider income inequality gap between participating households and non-participating households. Although, scholars have not been able to explicitly establish a direct link between labour emigration and income inequality in

sending countries. A popular opinion is the direct effect of remittance inflow on income inequality whereby the recipients of remittances are the direct beneficiary of the returns on labour emigration. Theoretically, the Neoclassical theory of migration argues that labour migration is motivated by 'expected' higher income and wages. Whereby people migrate due to labour market differences and geographical imbalances such as wage differentials, expected returns on skills, and unemployment rates (Gugler, 1968; Lewis, 1954; Harris & Todaro, 1970; Massey, Goldring, & Durrand, 1994; Asch, 1994). The neoclassical theory of migration explains the disequilibrium between the demand for and supply of labour coupled with wage differentials across the border as major incentives for emigration (Lewis, 1954, Harris & Todaro, 1970).

Labour emigration is highly beneficial to both the sending countries and the sending countries. The country of origin enjoys an increased inflow of remittances into the country which are highly beneficial to the recipients' immediate household growth and development, as well as the overall economic growth and development of the country at large (Oyegoke & Amali, 2022). It enhances the flow of foreign capital and earnings into the sending countries through the emigrants' households (Lewis, 1954; Adepoju, 2008; WickramasingHe & Wijitapure, 2016). Despite these benefits, it is pertinent to examine the overall effects of emigration on income inequality given the socioeconomic inequality gaps in Nigeria, and the recent upsurge in labour emigration.

The link between income inequality and the incentive to migrate has been unclear, according to some migration theories, it is believed conventionally that emigration of unskilled labour results in income inequality reduction in sending countries while increasing that of the host countries. On the other hand, emigration of highly skilled labour leads to 'brain drain' which in turn raises income inequality in both the sending country and receiving countries, thereby causing an unambiguous effect (Davies & Wooton, 1992). Therefore, there are no single theories that explicitly capture and explain international labour migration. Empirical analyses are also divided on the overall effects of labour emigration on income inequality in sending countries. On the issue of labour emigration, most researchers focus on the host countries with little or no attention to the 'departure' of emigrants rather than 'arrival'. This paper thus empirically investigates the relationship between income inequality and labour emigration, and the effects of labour emigration on income inequality in the source country using Nigeria as evidence. The paper is divided into five main sections, section One deals with

the introduction of the study, section Two has the review of literature, section Three, methodology and data analysis, section Four, presentation of results section Five; discussion of findings and section 6 concludes.

2. Review of Literature

International labour migration is the movement of labour – of all categories and skills from one geographical location to another, usually for socioeconomic incentives (UN IOM, 2021). Theoretically, the neoclassical school of thought argue that people migrate from regions with low income to countries with expected higher income (Lewis, 1954; Harris & Todaro, 1970). However, the issue of labour emigration is highly controversial, especially regarding the drivers of labour emigration. Theoretically, the motivation for migration has been broadly classified into 'push and pull factors'. Whereby certain factors 'push' people away from their countries or regions of dwelling to other places with perceived better conditions. While, advanced countries with improved living conditions and other perceived benefits entice labour to come and dwell, hence, 'pulling' them into their countries (UN DESA, 2020; Todaro & Smith, 2011). Globally, there are about 272 million migrants across the world, out of which 245 million are 15 years and above; the total number of migrant workers stood at 169 million according to (ILO, 2021). This implies that about 69% of the global migrant population is made up of international migrant workers.

The income inequality gap between the rich and the poor has become an issue of utmost concern to world policymakers at large. According to a recent report, global inequalities have relatively reduced between countries, however, the income gap between the rich (top 10%) and the poor (bottom 50%) has doubled over the last decades (Myers, 2021). Income inequality is an extremely sensitive indicator of a nation's economic development and welfare, hence, the government can't afford to keep rolling out policies without considering the effects on the inequality gap. Unfortunately, most developing countries have persistently experienced a widening income inequality gap, especially during and after the COVID-19 pandemic. According to the reports, the share of global billionaire's wealth since between 1995-2020 increased from 1% to more than 3% in the COVID-19 era (Myers, 2021). Given the recent reports, can establish a link between labour emigration and income inequality?

Studies on the economic effects of international migration on the sending countries are likely to have two outcomes. First, 'pioneer' migrants are likely to come from middle- or upper-income households. Second, there's a possibility that there will be a spread of migration across households. If the fact that one member of the household successfully emigrates is considered, there is the likelihood that more people from similar households will join through migration networking. This is according to (Taylor E. J., 2006) who studied the importance of international labour migration on economic growth and development with a focus on the need to balance both the positive and negative effects on sending countries. One of the major contributions of the study is the effect of remittance inflow on income inequality in the sending country.

> *"There is a simple explanation for this. It has to do with incentives versus constraints. The very poorest households have the incentive to send migrants abroad and reap the reward of remittances far beyond what family members could earn at home. However, they know that international migration is costly and risky. The poorest households do not have the savings to pay the labour recruiter, the cost of a voyage, or the human smuggler"* (Taylor E. J., pp .3..2009).

The author argues that at first, remittances inflow to the pioneer middle-upper class households directly increases inequality. However, more households tend to emigrate as a direct result of migration networking, thereby increasing remittance; it gets to a point where remittance inflow becomes 'equalising'. The effect of remittance on income inequality could increase at first and then go down – more like an inverted 'U" shape. If poor households eventually have access to international migration through networking, then the remittance inflow becomes an income equaliser and has the potential of reducing poverty in the country of origin.

The author empirically tested a 10% increase in remittances on income inequality and poverty in the rural area of Mexico. Income inequality was measured by the Gini coefficient, while poverty was measured by the Foster-GreerThorbecke index, which measures both households' share of income just below the poverty line, and, the depth of income falls below the poverty line, as put forward by (Edward, et al, 2005). Findings show that an increase in income inequality viz-a-viz remittance depends on the size of the migrants in a particular region. Regions where the percentage of emigrants is low, record higher income inequality, while remittance reduces income inequality in regions with the highest migration. The same holds for poverty, whereby the effect of remittances on regions with low migration populations is

little, while remittances reduce poverty in regions with a high-migration population significantly.

The link between the incentive to migrate and income inequality is inconclusive based on empirical analysis (Stark, et al, 2020). An explanation for the inconclusive results acknowledged total relative deprivation (TRD) as a key determinant of migration decisions and behaviour. The study investigates the relationship between income inequality (using the Gini coefficient), TRD, and international labour migration using vector analysis to generate sufficient conditions on both the initial and final vectors of income through which the directions between the changes in TRD and income inequality become incongruent. The analysis reveals that an increase in incentive to migrate coupled with an increase in total relative deprivation can leave income inequality unchanged. This implies that the Gini coefficient and total relative deprivation (TBD) behave differently.

Slettebak, (2021) investigates the effect of labour migration on income inequality in Norway using municipal-level data that spans 2005-2016. The study uses the linear cross-lagged model, specifically Structural Equation Modelling (SEM) to test the relationship between income inequality and labour migration. The model also involves a linear fixed effect which checks for the extent or degree of the effects. The result of the SEM analysis shows that labour migration increases income inequality, implying a unidirectional causal relationship. Also, the study further tests if the supply-side or demand-side arguments of labour migration hold for increasing inequality, findings reveal that in Norway, the supply-side argument holds. The implication is that an increase in labour immigration increases income inequality in return.

Rising inequality in the world can be reduced through emigrants' remittances, while destination countries enjoy certain economic benefits, especially rich countries with an ageing workforce and labour shortage. According to Orrenius & Zavodny (2018), emigration lowers income inequality in the sending country but has a minor effect on wage and income inequality in the host country. The study reviewed the literature and analysed the trends and bimodal skill distribution of immigrants in the U.S. for the period 1980-2015. Findings revealed that migration of low-skilled labour into the U.S. especially from Mexico played only a 'minor' role in raising income inequality in the country. However, the bimodal distribution of migrants' skills clusters the top and the bottom skill distribution in the country, thereby widening the income inequality gap slightly. At the same time, international labour improves the global income distribution by moving millions of households from the low-income class to the middle

class. It also moves families far from the poverty line through personal remittances from abroad.

Uprety (2019) examines the effect of highly skilled migration on wage and income inequality in developing countries and found a positive effect. The study uses data from 110 developing countries and a panel analysis that covers the period, 1980-2010. The result shows that in the short run, migration of highly skilled labour increases income inequality in the sending countries. On the other hand, the emigration of low-skilled workers does not affect income inequality in developing countries.

Evidence from the United States shows that the most recent in-and-out migration has no significant positive effect on the earnings of the top decile of the income distribution in the country. This is according to Osborne (2019), who analysed the impact of labour migration on income inequality in the country, using data for the period 1940-2015. The study employs both descriptive statistics and empirical analysis using the OLS to estimate the model. The results show that the primary channel through which labour immigration affects earnings inequality is the non-migrant channel. This channel depends on the substitutability and complementarity degree of workers in the labour force. Considering the state-level immigration, there appears to be a small significant positive impact on earnings inequality, especially those at the top decile. Labour migration also accounts for about a 5.8% increase in observed inequality between 1950-2015.

International labour migration can be considered a source of livelihood in developing countries. A study on the impact of labour migration through remittances, on poverty, and income inequality in Sri Lanka was conducted by Dharmadasa, *et al,* (2018) to investigate the depth of the relationship between migration, poverty, and inequality. The study used data on household income and expenditure, which was estimated using the OLS multinomial logit that uses a two-stage method of selection and control, and simulation analysis. The author controls for ambiguity by estimating a counterfactual income for migrants' households. The counterfactual income is the income that migrants' households would have if they did not partake in migration nor receive remittances. The regression results show that as labour emigration increases, both locally and internationally, the resultant effect of remittance inflow has a negative impact on poverty and income inequality. Remittance is effective in alleviating poverty in the country by reducing the depth of poverty by 2.32%, evidence also shows a reduction in income inequality.

In Nigeria, it has been observed that despite the high geographical labour mobility, and a resultant increase in remittance inflow, a large part of the population is still considered poor. This is according to Rufai, *et al*, (2019) who assessed the determinants of labour emigration, the depth, and the subsequent effect of remittance on poverty in the country. The study uses primary data from descriptive statistics to collect data relating to emigrants' households and their characteristics. The findings show that migrants are mostly male and young with a mean average of approximately 30 years. Furthermore, the level of education also influences the decision to migrate. The study further examines the effects of labour emigration on poverty using the Logit model and Propensity Score Matching (PSM). The results indicate that labour emigration in Nigeria is influenced by three main factors, namely, employment, marriage, and education.

A gender simulation shows that 35% of male migrants travel for studies, while only 14% of female migrants travel for the same reason. Another common trend is marriage arrangements, whereby about 40 per cent of the total female migrants fall into this category. The study further suggests that most emigrants were gainfully employed after migration, suggesting that labour mobility is often associated with occupational mobility. The study confirms a significant positive effect of emigration on remittance inflow. The study found that poverty can be alleviated through labour emigration, given the significant negative effect.

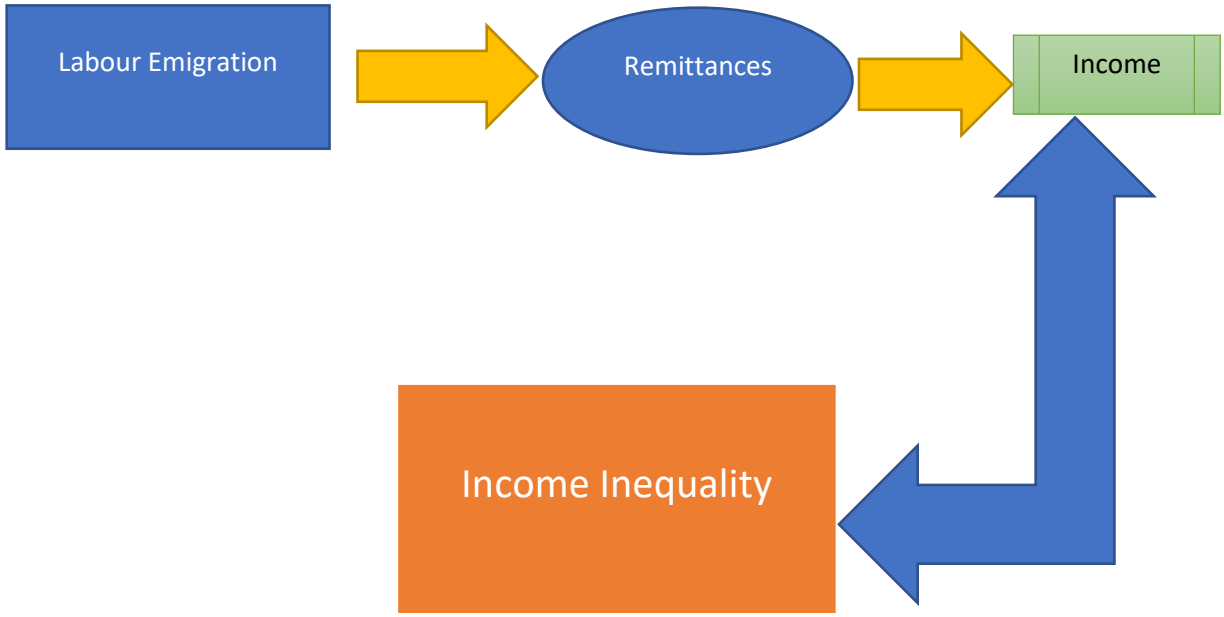
In Kosovo, labour migration is a source of income for citizens who are involved. It is also perceived as a common coping strategy that helps to compensate for the high rate of unemployment in the country. The percentage of the population involved in international was about one-fifth in 2010, the projection is quite higher for years to come. This is according to Möllers & Meyer (2014) who estimated the effects of labour migration on income inequality and poverty in the rural area of Kosovo. The study uses data on remittance, poverty, and income inequality to examine the effect of remittance inflow on the rural population's welfare and overall income distribution. The analysis of the study was also based on the estimation of counterfactual income. The Propensity Score Matching (PSM) and the logit regression methods were employed in analyzing the model. Findings suggest that the household labelled as extremely poor do not benefit from remittances; however, remittance inflow is effective in lifting about 40 per cent of migrant households far from the poverty vulnerability threshold. Income inequality on the other hand tends to rise because of migration. The study concludes

that factors such as the structure of household income, and education enhance higher income in migrants' households.

Agbola & Acupan (2010) studied the empirical impact of political demographic and economic factors on emigration size in the Philippines using a simple Unrestricted Error Correction Model. The model was used to analyse data spanning 1975-2005. Findings showed that adult literacy, unemployment, and population density are major determinants of labour emigration in the Philippines. The evidence to prove that income inequality affects the migration decisions of People in the Philippines is inconclusive.

The older theory of migration has been criticised for not capturing other reasons for labour emigration other than the basic expected income maximisation and unfavourable labour market conditions. According to a study conducted by Kafle *et al*, (2018), there is a need to revisit the deprivation theory of migration to ascertain whether it induces emigration in Sub-Saharan African Countries. The authors used panel fixed effects to estimate the impact of relative deprivation on labour migration on a set of comparable longitudinal integrated household data, and agricultural surveys from Uganda, Tanzania, Nigeria, Malawi, and Ethiopia. The data span is 2008-2014. Results show that households' decision to migrate is not only a function of their well-being, but also their relative position, well-being, and status in the larger local community. This implies that there is a positive effect of relative deprivation on labour migration, and migration, in turn, increases the absolute level of income and wealth.

Figure 1: Labour Emigration, Remittances, Income, and Income Inequality



Source: Author's conceptual framework

Having reviewed some existing literature it is with noting that there's a dearth of literature on the link between labour emigration and income inequality that focuses on Africa, especially Nigeria at the macro level. This paper, therefore, fills the gap by analysing the correlation between labour emigration and income inequality; and the effects of labour emigration on income inequality in Nigeria using annual time series data for Nigeria.

3. Methodology

The objective of this study is to evaluate the relationship between labour emigration and income inequality, and specifically to analyse the effects at the macroeconomic level. To achieve this objective, data on Net Migration Rate, Gini coefficient, Tertiary School Enrolment rates (a proxy for education), Remittance inflow and Inflation rates are employed. The data is sourced from the UN reports, Macrotrends (online), and the World Bank, for the period 1980-2021. The dependent variable is the Income Inequality index (Gini Coefficient), while Net Migration Rates (NMR), Remittance Inflow (REM), Inflation rate (IN) and Tertiary School Enrollment rates (TSE) are the regressors. The model was analysed using the Correlation Matrix, and the Ordinary Least Square (OLS) model, following the model specification of (Prakash, 2009). The model in a linear form is specified as follows:

$$GC_t = \alpha_0 + \beta_0 LNGDP\_P + \beta_1 NMR + \beta_2 LN\_REM + \beta_3 IN + \beta_4 TSE + e_t \ldots\ldots\ldots\ldots\ldots (1)$$

Where: GC= Income Inequality (proxy by the Gini Coefficient)

NMR = Net Migration Rate

REM = Remittance inflow

IN = Inflation rate

TSE = Tertiary School Enrollment ratio (Proxy for education)

$GDP\_P = Gross\ Domestic\ Product\ per\ capita\ income$

μ $is\ the\ error\ term,$ showing that the relationship between the regressed and the regressor is not perfect. α is the intercept indicating the point of intercept between the regression line and the Y-axis, while β_0, β_1, β_2, β_3, and β_4 are the slopes of the coefficients of the independent variable to be estimated. The slopes show the average change in Y (the dependent variable), relative to a unit change in X (the independent variable).

The OLS model is given as:

$$GC_t = \alpha_{01} + \beta_0 NMR + \beta_1 REM + \beta_2 IN + \beta_3 GDP + \beta_4 TSE + e_t \qquad (1)$$

Income inequality is measured by the Gini Index, which shows the dispersion and variation in wealth distribution across different social groups in a country. It is measured in percentage and can assume any number between 0-1. The Net Migration Rate (NMR) is the main variable of interest, it provides a documented migration flow for the country. The NMR is the difference between the immigration rate and the emigration rate in the country. The rate is measured as a ratio per 1000 population (UN DESA, 2013). Remittances are income transfers from emigrants abroad to their relatives in the source country. At the macro level, remittances are the total sum of all workers' remittances, employees' compensations, and migrants' transfers into and out of the country; an inverse relationship is expected. For this study, the total sum of annual remittance inflow was utilized, hence, the natural logarithm was taken for a more accurate result.

It is expected that as increase migration increases, it leads to an increase in remittance inflow to the country, which will exert a positive economic effect on the households, thereby reducing income inequality (Harris & Todaro, 1970; Gugler, 1968). Theoretically, the GDP per capita helps to understand how the economic growth of the country affects its population in terms of

the utilization of economic resources and its even distribution among the citizens. It was transformed into the logarithm form. Therefore, the apriori expectation is that an increase in the GDP per capita reduces income inequality between the rich and the poor (*ceteris paribus*). The data on GDP per capita income is also sourced from the World Bank, measured at the current USD. Inflation Rate is a macroeconomic indicator that affects both the rich and the poor and especially when income is held constant. It is expected that an increase in inflation increases the income inequality gap and vice versa. The data is sourced from the World Bank. The variables are all tested for unit root using the Augmented Dickey-Fuller (ADF) unit root test to ascertain if they are stationary and their order of stationarity.

4. Presentation of Results

The analyses are in two folds, the first is the Correlation Matrix results, and the second is the OLS results. A pretest of the unit root was done using the ADF unit root test, the results show that all the variables are stationary at first difference except for the dependent variable which is stationary at level. See *Table 1* for details.

Table 1 ADF Unit Root Test for Model

Variable	Stationary	Order of Stationarity
Income Inequality (GC)	Yes	I(1)
Remittance (REM)	Yes	I(1)
Labour Emigration (NMR)	Yes	I(0)
GDP_P	Yes	I(1)
Inflation Rate (IN)	Yes	I(1)

Source: Author's computations using Eviews data from the World Bank

The unit root test shows that all variables are stationary at their first difference. The result of the Correlation Matrix is presented in Table 2.

Table 2 Correlation Matrix Results

GC	GC	GDP	NMR	LN REM	IN	SSE
GC	1.0000					
GDP	-0.852104	1.000000				
NMR	0.393928	-0.062592	1.000000			
LN_REM	-0.360316	0.761088	0.377943	1.000000		
IN	0.328471	-0.364795	0.471997	-0.368677	1.000000	
TSE	-0.404404	0.731074	0.435368	0.943495	-0.268576	1.000000

Source: *Author's Computation using Eviews 12SV*

From the results, it can be concluded that GDP per capita has a very strong negative relationship with income inequality with a coefficient of (-0.85), while remittance has a very weak negative correlation with income inequality showing a coefficient of (-0.36) in Nigeria. The inflation rate on the other hand has a positive correlation, with a coefficient of 0.3. labour emigration has a positive correlation, howbeit, very weak (0.39). the level of education proxy by secondary school enrollment indicates a negative correlation with inequality in income distribution in Nigeria. Meanwhile, though the level of correlation has been determined, it is better to further check the effects. This has been done using the OLS. The result is given in Table 3.

Table 3: OLS Estimation Results

OLS Estimation Results

Dependent Variable: GC.
Method: Least Squares.
Sample (adjusted): 1985 2011
Included observations: 11 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	74.06573	5.059329	14.63944	0.0000
GDP	-7.098093	1.096647	-6.472544	0.0013
NMR	0.963578	2.135002	0.451324	0.6707
LN_REM	0.971535	0.282168	3.443111	0.0184
IN	0.017774	0.028955	0.613853	0.5662
TSE	-0.581710	0.290919	-1.999560	0.1020

R-Squared	Adjusted R-Squared	Durbin-Watson stat.	F-Statistic
0.961701	0.923402	1.821342	25.11034
			(0.001498)

Source: *Author's computation using Eviews 12SV, Data from the World Bank Indicators.*

The OLS analysis aligns with the correlation results, showing that the signs are all the same. GDP and level of education (SSE) indicate a negative effect on income inequality. Labour emigration, (NMR), remittance, (LN_REM) and inflation rate (IN) both have a positive effect on income inequality. The GDP has a coefficient of -7.09 and a p-value of (0.0013), and NMR has 0.96 as its coefficient and a probability value of 0.6707. LN_REM also has 0.97 as its coefficient and a probability value of 0.0184. The inflation rate (IN) has a coefficient of 0.017 and a p-value of 0.5662. education (SSE) has -0.58 as its estimated slope and a p-value of 0.1020. the model has a DW value of 1.82 which indicates that there is no autocorrelation in

the model. The R-squared is 0.96, and the adjusted R-squared is 0.92, implying that the model has a good fit and that 96% of the variations in the dependent variable (income inequality) are caused by the independent variables.

To ascertain that the model is a good fit, post-diagnostic tests were done. The histogram normality test showed that the histogram bar is bell-shaped, implying that the model has a normal distribution. The Jarque-Bera coefficient is 0.28 and the probability value is 0.86, in this case, we cannot reject the null hypothesis of normal distribution. Also, the histogram has a bell shape indicating that the residual of the model has a normal distribution. I also checked for homoskedasticity, that is if the error term has a constant variance and is serially uncorrelated with the independent variables.

5. Discussion of Results and Recommendations

The Correlation Matrix helps to understand the relationship between two (2) variables, whether strong positive, weak positive, or negative. The coefficient assumes any value between -1 and 1, if the coefficient is negative and less than -0.5, then there is a weak negative linear correlation between the two variables. If the coefficient is 1 or close to 1, then there is a strong positive linear relationship. It also tells that each variable has a perfect correlation with itself, this is justified in a diagonal arrangement of the table whereby all the coefficients along the diagonal cells are equal to one (1).

Therefore, the result of the correlation matrix shows that firstly, all the variables have a perfect linear correlation with themselves. Secondly, GDP per capita has a correlation coefficient of -0.8, implying that there's a very strong negative correlation with income inequality in Nigeria. This means that as GDP per capita increases, income inequality reduces. Labour emigration on the other hand has a positive correlation with income inequality. The coefficient is 0.39, which is far from 1, implying a weak positive relationship.

The implication is that as labour emigration increases, income inequality also increases, but not at a very high rate. Remittance inflow has a correlation coefficient of -0.36, suggesting a weak negative linear relationship. As remittance increases, income inequality reduces, but weakly. Inflation also has a weak positive correlation, with a coefficient of 0.32, suggesting that an increase in the inflation rate will also increase the income inequality level, though at a very weak rate. Lastly, the level of education has a negative relationship with income inequality

in Nigeria, the coefficient is -0.40, suggesting that as the level of education increases, income inequality reduces (*ceteris paribus).*

To ascertain further the impact of each of these independent variables on the dependent variable, the Ordinary Least Square method (OLS) was employed to estimate the effects. The regression results show that other things being equal, at the macro level, GDP per capita hurts income inequality in Nigeria. The coefficient of the GDP is -7.09, and the probability value is 0.001, suggesting its statistical significance at a 1 per cent level. This aligns with the a priori expectation, given that the GDP per capita relates to the total income accrued to an individual per output. It measures the prosperity of a nation based on income per individual. It further justifies the strong negative relationship explained by the correlation matrix. The implication of this is that as the income of individuals increases by

Although, one could argue that an increase in GDP per capita does not necessarily translate into a reduction of income inequality, especially if the income or resources of a nation is concentrated in the hands of a few. In this case, the inequality gap between the rich and the poor becomes wider. But this result suggests that one of the easiest ways to close the income inequality gap is by increasing productivity, through manufacturing and other industrial activities, which can open up the economy to citizens getting gainfully employed and increase their total productivity. This finding aligns with the result of the correlation matrix that shows a very strong negative relationship between the two variables. The OLS regression affirms that as the GDP per capita increases by 1 unit, income inequality reduces by 7 units (*ceteris paribus).*

OLS results further reveal a positive relationship between income inequality and labour emigration in Nigeria. If labour emigration increases by one (1), the income inequality gap widens by 0.96 units, however not significant at 5 per cent. This is not surprising at all, as some empirical findings have inconclusive inferences when it comes to the relationship between these 2 variables. For example, Stark, *et al*, (2020) could not establish a direct link between the incentive to migrate and income inequality, hence, rendering the effects inconclusive. Others conclude that emigration reduces inequality in the sending countries (Orrenius & Zavodny, 2018), but plays a minor role in increasing the gap between the top and bottom income distribution in the host countries.

On the other hand, the findings of Slettebak (2021) suggest a statistically significant positive relationship between income inequality and labour emigration. To an extent, the result from this regression analysis supports the findings of Slettebak (2021), partially, since the effect is positive, however, not significant. Also, the findings of Uprety, (2019) show a positive impact of emigration on income inequality in developing countries.

The effect of labour emigration on income inequality in developing countries can best be observed at the micro level, given the fact that emigrants' households are directly at the receiving end of the effects, risks, consequences, as well as benefits. This could explain the reason why it is not statistically significant at the macro level.

Meanwhile, perhaps a better way to understand the aggregate impacts of labour emigration on income inequality is through remittance inflow. It is the direct benefit of international labour emigration enjoyed by emigrants' households that are left behind in the sending countries. The regression estimation shows a positive impact of remittance inflow on income inequality in Nigeria. Theoretically, it is expected that as income transfer from abroad increases, households' income also increases, thereby reducing the poverty level, and closing the income inequality gap between the poor and the rich (Todaro & Smith, 2011; Carbaugh, 2014; Harris & Todaro, 1970; Lewis, 1954).

The theory of international migration hitherto has left out an important part of international mobility, while focusing the most attention on illegal migration, immigration, and cross-border restrictions. This has led to a lot of misconceptions concerning international migration which has been confirmed by a 20th-century empirical piece of evidence by Taylor (2009). The study argues that the trend in international migration is not from poor families, households, and communities to rich countries because of certain push and pulls factors as perceived by the international community. In reality, labour emigration is mostly influenced by two major factors: the ‘’*incentive* and the *constraint*’’. The poor have the will but are limited by funds, while the rich who can afford to pay may not be willing to emigrate unless they must Taylor (2009). Labour emigration is really for the income group that can afford to pay for it and bear the risk conveniently; hence, it is most common among skilled workers who are likely unsatisfied with their current level of income, wages, working conditions, the standard of living, and other socio-economic factors that cannot be explained Breunig, *et al*, (2016). If this is the case, then a unit increase in remittance will increase the income inequality gap, and vice versa. As suggested by Taylor (2009), remittance increases income inequality among middle-

upper-income households and could also serve as an income equalizer if poor households have access to international labour emigration.

The coefficient of remittance is 0.97, and the p-value is 0.018, suggesting that as remittance inflow increases by 1%, the inequality gap widens by 0.97% in Nigeria. This result is statistically significant at a 5% level of significance. This implies that remittance inflow does not reduce income inequality in Nigeria, surprisingly; it has a very strong positive effect on widening the gap in income disparity between the poor and the rich. This is largely because labour emigration in Nigeria is skilled biased and involves a lot of money and risk, and not for the poor. For instance, (Möllers & Meyer, 2014) found that households who are poor did not benefit from remittances and that income inequality tends to rise as labour emigration increases.

The result also aligns with that of (Osborne, 2019; Uprety, 2019) who found a positive effect of labour emigration of highly skilled workers, and remittances on income inequality in sending countries. Likewise, some of the conclusions of Möllers & Meyer (2014) are supported by the findings of this study. In contrast, this study did not support the empirical outcomes of (Dharmadasa, *et al*, 2018; Orrenius & Zavodny, 2018), which suggested a negative effect of remittance inflow on income inequality.

Inflation rates have a positive impact on income inequality in Nigeria, based on this analysis, the coefficient of the estimates is 0.01 and the probability value is 0.56. This shows that if other things are held constant, the inflation rate tends to increase labour emigration by 1 per cent for every unit of increase. However, this finding is not significant at a 10% level of significance. In other words, as the general price level of goods and services rises in Nigeria, holding income and other factors constant, the income inequality gap widens by one per cent. The possibility of this is very high given the fact that households spend the bulk of their earnings on consumption expenditure, usually, basic necessities, which directly affect their income. Low and middle-income households end up spending more and saving less, while rich households may not necessarily feel the increase, thereby creating a wider income inequality gap, especially between the top 10 and bottom 40. nonetheless, it is statistically insignificant. The regression analysis shows that the level of education has a negative impact on income inequality in Nigeria. The regression coefficient is -0.58 with a p-value of 0.102, this implies that if an individual acquires more knowledge and skills, the income inequality gap reduces the income inequality gap by 58%. However, it is not statistically significant.

Recommendations

One of the perceived consequences of labour emigration apart from brain drain is an increase in income inequality. However, this study reveals an insignificant migration-led income inequality in Nigeria; therefore, labour mobility should not be restricted, but rather restructured to maximise the full benefits at the macro level. This could be achieved through a structured trade agreement between the host countries. I propose that remittance-receiving households be sensitized and more empowered to invest their extra income, through further incentives, public-private partnership, and a more business sustainable environment. This will enforce a re-distribution of remittances and the benefits of labour emigration to the poor via job creation, hence, reducing the income inequality gap.

For further studies, other forms of inequality can be examined at the macro level, and the effect on income inequality can also be studied at the micro level.

Funding: This study is not funded by any organization or institution.

REFERENCES

Adepoju, A. (2008). Migration in sub-Saharan Africa. *Current African Issues, 37*, pp. 1-73. Retrieved 2022, from https://www.files.ethz.ch/isn/91432/37_Migration-in-Sub-Saharan-Africa-pdf

Breunig, R., Deutscher, N., & To, H. T. (2016). *The Relationship Between Immigration to Australia and The Labour Market Outcomes of Australian Workers.* Canberra: Technical Supplement A to the Productivity Commission.

Carbaugh, R. J. (2014). *International Economics* (FIFTEENTH EDITION ed.). Boston, United States of America: Cengage Learning.

Dharmadasa, S., Weerahewa, J., & Samarathunga, P. A. (2018, December). Labour Migration and Impact of Remittances on Poverty and Income Inequality: Evidence from Estate Sector of Sri Lanka. *Tropical Agricultural Research, 30*(1), 69-83.

Gugler, J. (1968, December). The Impact of Labour Migration on Society and Economy in Sub-Saharan Africa. Empirical Findings and Theoretical Considerations. *African Social Research, 6*, 463-86.

Harris, J. R., & Todaro, M. S. (1970). Migration, Unemployment and Development: A Two-Sector Analysis. *The American Economic Review, 60*(1), 126-142.

ILO. (2021). *Infographic - ILO Global Estimates on International Migrant Workers.* International Labour Organization (ILO). Retrieved from https://www.ilo.org/global/topics/labour-migration/publications/WCMS_808946/lang--en/index.htm

Lewis, A. W. (1954, May). Models of development: Economic Development with Unlimited Supplies of Labour. *22*(2), 139-191. Retrieved August 29, 2021, from http://faculty.smu.edu/tosang/pdf/Lewis_1954.pdf

Möllers, J., & Meyer, W. (2014, September 29). The effects of migration on poverty and inequality in rural Kosovo. *IZA Journal of Labor & Development, 3*(16), 1-18.

Myers, J. (2021, December 10). *World Economic Forum*. Retrieved from https://www.weforum.org/agenda/2021/12/global-income-inequality-gap-report-rich-poor/

Orrenius, P. M., & Zavodny, M. (2018, May). Does Migration Cause Income Inequality? Evidence from Mexico and the United States. (C. Mashferrer, Ed.) *Mission Foods Texas-Mexico Center Research, 1*, 1-6.

Oyegoke, E. O., & Amali, E. (2022). Labour Emigration, Remittances and Economic Development: An Empirical Analysis. *Journal of Global Economics and Business, 3*(11), 155-179. doi:https://journalsglobal.com/index.php/jgeb/article/view/96

Slettebak, M. H. (2021). Labour Migration and Increasing Inequality in Norway. *Acta Sociological, 64*(3), 314-330.

Stark, O., Byra, L., & Kosiorowski, G. (2020, January). On the Precarious Link Between The Gini Coefficient and The Incentive to Migrate. *IZA Institute of Labour Economics, IZA DP NO. 12910*, 1-16. Retrieved April 14, 2022, from https://docs.iza.org/dp12910.pdf

Taylor, E. J. (2009). International Migration and Economic Development. *International Symposium on International Migration and Development, 28-30 June* (pp. 1-28). Turin, Italy: United Nations Secretariat, Population Division, Department of Economic and Social Affairs. Retrieved June 14, 2022, from https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/unpd_om_200606_p09_taylor.pdf

Todaro, M. P., & Smith, S. C. (2011). *Economic Development: The Historical Role of International Migration* (11th ed.). Pearson.

Todaro, M. P., & Smith, S. C. (2011). *Economic Development:n The Historical Role of International Migration* (11th ed.). Pearson.

UN DESA, U. (2020). *International Migration 2020 Highlights.* United Nations, The Population Division. New York: United Nations.

UN IOM. (2021). *UN INTERNATIONAL ORGANIZATION FOR MIGRATION*. Retrieved September 01, 2021, from UN IOM MIGRATION: https://www.iom.int/key-migration-terms

Uprety, D. (2019, October 16). Does Skilled Migration Cause Income Inequality in the Source Country? *International Migration, 58*(4), 85-100.

WickramasingHe, A., & Wijitapure, W. (2016, Fall). International Migration and Migration Theories. *Social Affairs: A Journal for the Social Sciences, Vol. 1*(5), 13-32.