

Foreign Direct Investment and Income Distribution in Nigeria

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Abstract

This study is one of the few which has dwell on the impact of foreign direct investment on income distribution in Nigeria. The objectives of the study are to find out the impact of foreign direct investment on income distribution and determine the contribution of foreign direct investment on poverty reduction in Nigeria. The study made use of secondary data, after carrying out a unit root test on all the variables and the result showed that Gini(calculated) and GDPC are integrated of order zero, foreign direct investment and poverty rate are integrated of order one, hence the study employed the use of Vector Autoregressive Scheme as an appropriate methodology. The result showed that foreign direct investment has low impact on Gini (as a proxy for income distribution), other variables employment rate and real per capita Gross Domestic Product exhibited a greater impact on Gini. Also foreign direct investment has a greater impact on the level of poverty reduction in the country. The conclusion of the study is that the major reason for the low impact of foreign direct investment on income distribution is that foreign direct investment inflow into the country has been towards certain sectors (oil and gas, communication, construction, etc.) at the expense of those sectors (agriculture, tourism and manufacturing) that has the greatest potential for poverty reduction in the country, hence FDI is good and should be encourage to those neglected sectors in other to improve income distribution.

Keywords:

Foreign direct investment, Income distribution and Gini coefficient

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Background to the Study

Foreign direct investment is a strong force which has a positive impact on growth and development through employment generation, which leads to increase in income for the people, who in turn save and this is further reinvested into the economy for development and growth. Thus we experience reduction in poverty, as such incomes distribution becomes better, so that income inequality gap reduces. Then, it has to be adequately planned for if a nation is to experience a reasonable reduction in poverty through growth and development. In addition, wealth appeared to be highly concentrated in Nigeria, poverty rate in rural areas increased at an alarming rate due to high level of population growth rate, poor infrastructure, high gender blindness and high level of illiteracy. The trend of income inequality gap became wider as a result of the high cost of living, high rate of inflation, low wage rate and the few who has access to the nations' resources exploited it at the expense of the masses. CIA World fact book (2015)

The debate on the distributional impact of foreign direct investment often polarizes into two opposite strands of thought, One strand argues that foreign direct investment leads to more uneven income inequality because the benefits from foreign direct investment are not evenly shared among the citizens of a country. Blomstrom and Zegan (1994), Makola, (2003). Others Scholars like Jenkins (1987), Aitkens and Harrison (1999), viewed the role of multinational companies as agents of the industrial advanced economies bent on exploiting the cheap labour and other resources in the less developed countries (LDCs), thus benefiting the economy of the “core” industrial economies, ordinarily at the expense of the “peripheral” countries and hence worsening income distribution in the less developed countries. The other strand of thought argues that foreign direct investment helps reduce income inequality. They believed that integration of the world economy through increased foreign direct investment may raise income inequality in the earlier stages of development, but it eventually declines in the long run Fennstra and Hanson (2001), Arbenser (2004). In addition, reducing income inequalities especially for developing countries if adequate measures and attractive economic policies that will help to distribute or milk out the gains of foreign direct investment are in place is possible, Panje, Dierk and Peter (2001).

The discovery of crude oil in Nigeria was the major opener for the inflow of FDI into the oil and gas sector as highlighted by Makola (2003), immediately after Nigeria civil war, foreign direct investment inflow into the country also jumped up because of the need for massive reconstruction and rehabilitation of infrastructure. Also, income inequality gap has already been created immediately after independence because the few educated those who own big farmlands and business men took the lead, thereby having an edge over the illiterate masses, Bamidele (2003). The presence of multinational companies is a positive sign for mass production and export growth of the host country as highlighted by Blomstrom and Zegan (1994), so the paper seek to find out, why income inequality has remained high in Nigeria despite the increase in the inflow of foreign direct investment.

The Scenario is that Foreign Direct Investment inflow into developing countries has been towards certain sectors i.e. oil and gas, communication, air and rail transportation and construction at the expense of other sectors, UNCTAD Report (2001). Other Scholars went further to affirm that the neglected sectors i.e. agriculture, sport, tourism and manufacturing have the greatest potential for poverty reduction, particularly for developing economies with vast majority into subsistence farming, Muhammad and Naveed(2008) but both studies fails to account for reasons, why foreign direct investment is sectoral i.e. towards certain sectors. In essence, the paper seeks to find answers to the following problems, what precise impact does foreign direct investment has on income distribution in Nigeria? What is the impact of foreign direct investment on employment generation and why FDI has been sectoral in nature?

Also only a relatively small numbers of studies empirically have investigated the impact of FDI on income distribution, the bulk of the studies carried out so far on Nigeria has been on the determinants and promotion of FDI, like Aremu(1992) who wrote on FDI, determinants, performances and promotion in Nigeria. Others like Okoh (2004) wrote on FDI and their impact on sustainable development in Nigeria, Odozi (1995) wrote on overview of FDI in Nigeria between 1960 and 1995. Other Scholars wrote on pattern of FDI inflow and FDI and economic growth, with little effort to examine the relative impact on income distribution over the years. Most of these studies also agree that FDI inflow is sectoral, but this paper differs in that it looks at the impact of the sectoral inflow of FDI on income distribution in Nigeria. This is therefore an apparent gap in the stock of Knowledge in the area of FDI and income distribution in Nigeria which this study has filled.

Literature Review

According to the latest UNCTAD Global investment monitor (2017) global flows of foreign direct investment fell 13 percent in 2016 to an estimated \$1.52 trillion as global economic growth remain weak and world trade volumes posted anemic gains. Saroja and Sumei (2005), who reported that China is the largest foreign direct investment recipient country in the world replacing United States, the believed that foreign direct investment inflows is one of the main factors that have led to increasing of regional income inequality at national level, as well as rural and urban regions of China. Franco and Gerussi (2012) who verified whether trade and inward FDI may affect income distribution in a sample of International Transition countries over the period 1990-2006 and find out that FDI do not have significant effects on income inequalities, they find Gerardo (2011) examined the effect of economic variables such as trade, fdi and inflation on inequality, under different scenarios of domestic efficiency overtime. Trade benefits income distribution, whereas foreign direct investment and inflation increases inequality. The expansion of exports and employment based on the primary sector does not provide distributional effects, not even in low income countries. These economies associated with macroeconomic stability and a high governance indicator can mitigate the adverse effects of foreign direct investment on income distribution and enhance the benefits of trade. In the long-run, employment in industry, trade and in particular

manufactured exports, can exert more distributional effect while the adverse effect of foreign direct investment decreases.

Ucal, Haug and Bilgin (2015) explore how FDI and other determinants impact income inequality in Turkey both in the short- and long-run. The result of their work shows the existence of a co-integration relationship among the variables with asymmetric adjustment of the income distribution in both short and long run. Velde and Morrissey (2010) believed FDI can affect the level and dispersion of wages, though wages inequality has been low and decreasing in some but not all. They did not find strong evidence that FDI reduced wage inequality in the five Asian countries between 1985 and 98.

Dierk and Peter (2011) finds out that (1) foreign direct investment has a positive short-run effect on income inequality in Europe, (2) the long-run effect of foreign direct investment on income inequality, however is positive on the average (3) long-run and causality runs in both directions and (4) there are large differences in the long-run effect of foreign direct investment on income inequality, with two countries exhibiting a positive relationship between foreign direct investment and income inequality.

FDI and Employment Generation

Syned and Mohammad (2009), who observed that over the past two decades, India and China received a major chunk of foreign direct investment from developed countries and foreign direct investment flows to Pakistan also increased significantly. The study undertook an empirical study on creation of employment opportunities by foreign direct investment during 1985-2008 in Pakistan, India and China, the Seemingly Unrelated Regression (SUR) method was used and the result suggested that only GDP has a significant impact upon the level of employment in all of the three countries. And FDI doesn't have any impact on the creation of employment in Pakistan, India and China.

Okpe and Abu (2009), examine the effects of foreign private investment on poverty in Nigeria. The study seeks to test the hypothesis that FDI has no impact on poverty reduction in Nigeria. Using regression analysis for the period 1975 to 2003, the test demonstrates that the inflow of foreign private investment and foreign loans into Nigeria significantly alleviate poverty. The study recommended that effort should be made to encourage the inflow of foreign resources such as foreign private investment. Foreign loan should be highly discouraged, if it must be collected, it must be done in a manner that could not have negative effects on the economy in the long run. Also government should fine tune policies that would bring infrastructural facilities to the majority of Nigerians in the rural areas.

Theoretical Framework

Accelerator Principle: The theory says that the rate of investment expenditure depends upon changes in the level of output. i.e. increase in output puts pressure on existing production capacity which necessitates a high rate of investment expenditure. In essence the principles describes a principle where how much a business choose to spend in capital

investment will be influenced by how quickly demand is growing for their products. Rising GNP [an economic boom or prosperity] implies that business in general see rising profits, increased sales and cash flow, and greater use of existing capacity. This implies that profit expectations and business confidence rise, encouraging business to build more factories and other buildings and to install more machinery [this expenditure is called fixed investment]. This may lead to further growth of the economy through the stimulation of consumer's income and purchases i.e. via the multiplier effect, the accelerator effect also goes the other way; falling GNP [a recession] hurts business profits, sales, cash flow, use of capacity and expectations. The accelerator effects is shown in a simple accelerator model

$$Q = W(P_c - K) = I$$

Q stands for output, P_c stands for Production Capacity, K stands for Capacity Stock and I stand for Investment.

$\Delta K = W \Delta Y$, this is the accelerator principle, as output changes (ΔY), and capital stock (ΔK) changes the same direction.

$$K_t = W Y_t \quad (1)$$

$$\text{Similarly } K_{t+1} = W Y_{t+1} \quad (2)$$

Subtracting (1) from (2)

$$K_{t+1} - K_t = W Y_{t+1} - W Y_t$$

$$K_{t+1} - K_t = W (Y_{t+1} - Y_t)$$

$$\Delta K = W \Delta Y$$

$$W \Delta Y = \Delta K$$

$$\Delta Y = 1/W \Delta K$$

Change in income denotes augmented accelerator principle, (by change in income distribution measured by Gini coefficient), while change in capital stock denotes change in investment. [FDI as a form of investment], therefore;

$$\text{Gini} = \alpha_0 + \alpha_1 \text{FDI} + \alpha_2 U_t$$

Model Specification

A model is stated thus {though it was originally suggested by Ehrlich(1977) and Layson (1983)} with certain modification

$$\text{GINI} = \beta_0 + \beta_1 \text{FDI} + \beta_2 \text{GDPC} + \beta_3 \text{UNP} + \mu_t \dots \text{Model 1}$$

Where GINI= Gini coefficient, FDI= foreign direct investment, GDPC= Real GDP per capita, and UNP= unemployment rate. The second model is adopted to achieve the objective of examining the impact of FDI on employment generation in Nigeria

$$EMP = \alpha_0 + \alpha_1 FDI + \alpha_2 GINI + U_t \dots\dots\dots \text{Model 2}$$

Interpretation of Empirical Results

Time Series Properties of Variables in the Model

The Augmented Dickey Fuller test for unit root was conducted for the variables in the model at both levels, first and second difference as the case may be.

Table 1: Augmented Dickey Fuller tests for stationarity with Intercept and Linear Trend

Unit root test result

Variable	ADF Statistics	Order of Integration
GINI	-34.5555	I (0)*
GDP	-4.2521	I (0)*
FDI	-5.7162	I (1)*
EMP	-3.7438	I (1)*
PVT	-3.9837	1(1)*

Source: Computed from data

Note; ADF critical value at 5% is - 3.5867;

*: Stationary after the first difference

The test in table 1 was conducted with the assumption of constant and trend in the series. This is so because each of the variables shows a relationship with line that is trended. The result in Table 1, therefore indicate that not all variables are non-stationery at their levels. This is so, as their ADF statistics are all less negative than the critical values at the 5% level of significance. However, the economic implication of non-stationary series is that of a prolonged or sustained shock if there is any disturbance to the variable. Thus FDI, Employment rate and poverty rate all exhibited a prolonged shock.

A further test for unit root to ascertain whether such shock is that of infinity or will die out over time is conducted using the first and second difference of each variable as the case may be. Table 3, shows that while FDI, Employment rate and poverty rate are integrated of order one and they are denoted as I (1).

However since there are two models in this study, the results of the Johansen maximum likelihood co integration test and the associated error correction model for the first model are presented in table 2

VAR Result; VAR Estimates

The model expressed Gini as a function of foreign direct investment, employment rate and per capita GDP in the first model. Poverty is expressed as a function of foreign direct investment and Gini for the second model and employment rate was expressed as a function of FDI

Table 2: Vector Autoregression Estimates

	GINI	FDI	PVT	EMP	GDPC
GINI(-1)	-0.108413	-0.961383	-0.001677	0.000719	-852.9288
GINI(-2)	-0.049967	-1.383277	-0.001841	0.000540	-1107.803
FDI(-1)	0.011190	-0.147713	-5.17E-05	2.23E-05	10.50949
FDI(-2)	-0.001166	-0.180242	0.000137	9.68E-05	-92.74074
PVT(-1)	-13.38189	-14.13338	0.794368	0.100245	-806002.5
PVT(-2)	10.36381	40.96679	-0.058831	-0.152830	919964.5
EMP(-1)	46.34764	512.9151	0.379612	0.448697	312198.4
EMP(-2)	-59.35563	331.8436	0.083614	0.243763	59.60199
GDPC(-1)	-1.67E-06	0.000177	1.07E-07	-1.47E-07	0.070272
GDPC(-2)	-6.32E-06	0.000173	1.00E-07	-2.11E-08	0.103244
C	1376.886	-67596.84	-24.34660	28.12662	-28648126
R-squared	0.126546	0.219086	0.811827	0.670023	0.911936
Adj. R squared	-0.387251	-0.240275	0.701137	0.475919	0.860134
F-statistics	0.246296	0.476937	7.334251	3.451878	17.60418

The result above showed that there is a strong relationship between the endogenous variables. The result portrays the direction of causality considering the value of the F-statistics and the coefficient of multiple determination (R^2), it could be concluded that Gini (as a proxy for income distribution) is less endogenous than exogenous as the R-squared, Adjusted R-squared is negative and below 40% with a low F-statistics value than that of Gini coefficient, this signifies that FDI has low impact on Gini through GDPC and employment rate exhibit a greater impact on Gini. Also, considering the value of the F-statistics and the coefficient of multiple determinations (R^2), it can be concluded that poverty is more endogenous than exogenous as the R-squared, Adjusted R-squared is above 80% with a high F-statistics value than that of Gini and FDI.

Table 3: Response of Gini

Response period	Response of Gini	FDI	PVT	EMP	GDPC
1	721.3126	0.000000	0.000000	0.000000	0.000000
2	-7.385053	94.84430	-39.97274	160.1926	-3.708989
3	-46.22805	-24.46007	-10.40782	-147.5018	-27.74694
4	-0.501313	1.143625	21.63911	-5.347659	13.21745
5	-29.73779	-21.32818	-71.79104	-29.39240	1.619516
6	-13.24851	-4.503559	-26.28841	-33.69415	2.242923
7	-1.629419	-17.11173	-17.04789	-21.88789	1.372809
8	-12.41957	-9.225706	-5.367675	-21.25029	1.351690
9	-11.62542	-5.532509	-1.155144	-20.57389	1.165167
10	-1286097	-4.690143	3.287547	-14.50518	2.197340

Table 4: Response of EMP

period	GINI	FDI	PVT	EMP	GDPC
1	1.343277	0.201303	1.305720	3.449494	0.000000
2	1.181432	0.338977	1.262302	1.575625	-0.326185
3	1.183669	1.036796	1.188727	1.678344	-0.186208
4	0.779925	0.596453	0.234552	1.358715	-0.146585
5	0.729563	0.415008	-0.238320	1.055766	-0.114962
6	0.818494	0.256768	-0.558376	0.795244	-0.128098
7	0.738276	0.162509	-0.657442	0.526042	-0.128164
8	0.613051	0.076364	-0.742995	0.257435	-0.119476
9	0.459474	0.009931	-0.798534	0.040095	-0.096637
10	0.323225	-0.060290	-0.833293	-0.138393	-0.074275

Table 4 shows the results of the impulse response analysis derived from their estimated VAR models, the response of Gini to a one standard deviation shock to Gini itself is positive in the first periods and turns negative afterwards, this signifies that Gini exhibit a negative response to a one standard deviation innovation. Hence Gini is more dependent variable than FDI, employment rate and per capita GDP, Gini coefficient is being determined by GDPC, employment rate and FDI. The response of employment rate to a one standard deviation shock to employment rate itself is positive throughout, signifying employment rate exhibit a positive response to a one standard deviation innovation. Hence, employment rate is less dependent variable than Gini and FDI, employment rate is largely determined by GDPC.

Discussion of Findings

The study carried out on the impact of FDI on income distribution in Nigeria using the Vector Autoregressive (VAR) technique and Augmented Dickey Fuller test for unit root which revealed some findings as regards the structures and impact of FDI on income distribution in response to shocks in the policy variables. The unit root test was conducted with the assumption of constant and trend in the series. This is so because each of the variables shows a relationship with line that is trended. The result therefore indicates that not all variables are non-stationary at all levels. This is so, as their ADF statistics are all less negative than the critical values at the 5% level of significance. However, the economic implication of non-stationary series is that of a prolonged or sustained shock if there is any disturbance to the variable. This foreign direct investment, employment rate and poverty all exhibited a prolonged shock. These findings also indicate that both variables do not co-integrate at the same order which further amount to the use of VAR.

The result of the Vector Autoregressive (VAR) analysis revealed that in the model, Gini was less endogenous than foreign direct investment, employment rate and GDPC. The coefficient of the multiple determinations (R2) of Gini was low; 40%. It was further revealed that while foreign direct investment has low impact on Gini, others GDPC and

employment rate exhibit a greater impact on Gini. The low impact of FDI on Gini in this study's findings goes in line with the findings of Tsai(1995) that FDI gives rise to unequal income distribution in host Less Developed Countries(LDC's). Sumei and Saroja (2005) also find out that foreign investment also increases income inequality in both rural and urban regions. Studies have find out since FDI is skilled biased and wage biased, the general impact on income distribution will definitely be low. Mohammad and Naveed (2008) specifically added that FDI worsen income distribution. This is also in line with the findings of this study, other obvious causes may include the fact that FDI is sector and urban biased.

Conclusion

It is clear that most of the significant landmarks in Nigeria's policy towards encouraging the inflow of foreign direct investment are recent, the dramatic change in macroeconomics policies from stringent controls to deregulation and privatization designed to entrench a competitive, flexible and more effective regime of economic management, as well as market-oriented investment policy that places emphasis on the role of FDI are all recent developments. Evidence from Vector Autoregressive Scheme indicates that in Nigeria, the impact of FDI on income distribution is low, while employment rate, poverty rate and GDPC (Economic Growth) all exhibited a high impact on income distribution in the country, hence, any efforts geared towards increasing the employment rate, reducing poverty rate and economic growth all tends to improve income distribution but FDI impact on income distribution is still very low.

The major reason for the low impact of FDI on income distribution may not be far-fetched, since foreign inflow into Nigeria is geared towards certain sectors, i.e. oil and gas, communication, construction while those sectors like agricultural sector, tourism and manufacturing are mostly neglected and those neglected sectors has the highest potential for poverty reduction. So, foreign investors can and do have a major role to play in the country's economic development, they should be encouraged and facilitated, to all the sectors of the economy through a well-developed capital market, qualified human resources, a well developed and maintained infrastructure (especially electricity), political stability and sound macroeconomic policies because all these are important to foreign investors, so much more, they are important to domestic investors because all these determine risk and profitability of investment.

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