

External Capital Inflows and the Manufacturing Sector Nexus: A Granger Causality Approach, 1980 – 2017.

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Abstract

The need for an efficient and unhindered access to inflow of external resources such as external borrowing, foreign direct investment or foreign portfolio investment into the manufacturing sector to increase productivity is the main motivation of the study. The study centres on the impact of external capital inflows on the manufacturing sector in Nigeria, 1980-2017. This study was carried out to determine the long run effect of external capital inflows on the manufacturing sector by means of ordinary least square to investigate the data; employed the granger causality test for the causality links among the variables. The study revealed internal consistency of the variables under consideration. Hence they were key determinants of manufacturing sector output within the review periods. Granger causality relationship of bi-directional, uni-directional and independent directions was exhibited by some of the variables, the study concludes. Consequently, the study recommended, among others that the Nigerian government should display high transparency through its various agencies, and the central bank of Nigeria should overhaul the system to flush out corrupt officials who pocket external resources inflows with impunity and friendly macroeconomic environment should be created by the government in order to attract more and sustainable foreign capital inflows in the economy.

Keywords:

External capital inflows, Foreign portfolio investment, Foreign direct investment

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Background to the Study

Countries are not adequately endowed in relations to human and natural endowment and in the face of the above assertion, it is impossible for one country to remain in autarky (Onu, 2012). This therefore calls for inter-dependence on one another for exchange of goods and services from the surplus country to the deficits nation. In terms of equal provision via nature on the same quality and amount of endowed natural resources, it has emerged as expedient for countries to engage in the production of goods and services wherein its cost advantages are the least. Developing countries are constantly on the quest for improvement simply to enhance and stimulate economic growth. To do this, Nigeria as a growing country in dire need of infrastructural facilities which includes investment, production and capital influx to be able to close the near widening gap for sustainable economy (Abaukaka, 2014). Wider coverage in capital stock allows open access for investment which will in turn result in employment, create improvement in technology and reduces poverty (Kanu, 2015).

Basically, external sector services are frequently needed to complement domestic incapability to offer sufficient finance for the domestic usage by the citizenry. In reality, foreign capital entries are required by countries when the real savings or internal sources cannot be too adequate enough to allow it embark on lucrative investments openings. Accordingly, Salami and Oyewale (2013) and Okafor, Ezeaku and Eje, (2015) exposed that foreign capital are needed in a country considered a deficit economy in terms of financial resources and is required to close the existing gap between resources surplus nations and deficit resources nation such as Nigeria. A number of the sources of domestic capital formation includes among others family savings, utilization of home idle resources and government deficit budgeting (Olusanya, 2013). Other non-domestic resources includes Port- folio investment and government official borrowing from external financial institutions like International monetary fund(IMF), Paris club, ecto enhance and compliment domestic deficit sources (Ugochukwu, Okorie and Onoh, 2013). Interestingly enough, notwithstanding these enormous inflows over the years, the situation still did not transform the economy. While several studies have related external capital inflows and manufacturing sector such as the works of Okafor, Ugochukwu and Chijindu (2016)and Efoing and Eke (2016)among others but to the best of my knowledge, no study in Nigeria has examine the causality effect between external capital inflows and the manufacturing sector except in the case of Chigbu, Ubah and Chigbu (2016) investigation between external capital inflows and economic growth. Therefore, this study aims to examine the causality effect of external capital inflows and manufacturing sector and set the hypothesis of no causality effect between balance of payment and exchange rate in Nigeria.

Statement of the Problem

That external sector inflow such as Foreign Port-folio (FPI), Foreign Direct Investment (FDI)and outside borrowing have emerged as a sine-quo -none in the improvement of any country. Though, they cannot be over-emphasized in the Nigerian case. The inflow of FDI in 1990 was ₦4686 million, increased to ₦115952.2million in 2000, ₦9088.8million in 2010 and ₦28679.1million in 2016. Similarly external resources inflow grew to ₦3097.38million

in 2000, ₦2695.07million in 2005, ₦689.84million in 2010 and ₦3478.92million in 2016, despite the fact that its acquisition and utilization has been mismanaged over time specifically borrowed funds (Ekwe and Inyiama, 2014), Nigeria has witnessed unprecedented inflow of overseas direct funding and external borrowing, but the country has nothing to show for it as there abound proof of abandoned projects by government to the detriment of the unborn generations. The Ajaokuta Steel Industry and the Port Harcourt glass industry being deserted projects are few cases in Nigeria. To ward off the unpleasant effects of the mismanaged inflows and failed projects of the government, the relevant financial institution floated policy measures such as Debt Management Office (DMO) to streamline debts stocks. On the overseas direct funding, attempts were made to check and direct inflows to primary areas like the producing sector (Narayan, 2013). It is on the gloomy picture on ground that the present examination of the relevance of past inflows that called for the current study to empirically investigate if external sector resources can have effect on the manufacturing sector output performance in Nigeria.

Objective of the Study

The general objective of the study is to examine the causal link between external sector capital inflows and the manufacturing sector output in Nigeria. Specifically, the main aim is to:

- i. Investigate the influence of foreign direct investment on the manufacturing sector.
- ii. Determine the causality between FDI and the manufacturing sector.

Research Hypotheses

- i. Foreign direct investment inflow does not impact on the manufacturing output in Nigeria
- ii. There is no causal link between FDI and manufacturing sector in Nigeria

Theories of External Sector in flow

We shall discuss six external inflow theories in this research paper.

Location Specific Theory

This theory is credited to Hood and Younger (1979). The main emphasis of the theory centres on the inflow of external resources or overseas capital influx which comes in the form of FDI or borrowed funds and that it flows to nations with abundance of quality raw materials, cheap labour supply and quality infrastructure which acts as additional advantage to trap lower cost of production and in turn improves its profit.

The Dependency Theory

This theory is an economic theory advanced in Latin American countries. The theory is linked to Prebisch (1950). It explains the dependence of growing nations on powerful advanced countries. The dependency theorists distinguish various states with different economic functions they carry out. Particularly developed and advanced superpowers like the United States falls under the 'centre(c)' class even as emerging countries like Canada, the Netherlands and Japan are termed 'periphery-centre (pc)' category. These countries

have sizeable economic development and industrialization. The third category is the 'centre-periphery' (cp), which incorporates developing international countries that are developing fast like Brazil, China, India and South Africa. The last class is the 'outer periphery-periphery' (opp) category which includes countries which might be economically backward like Nigeria, Cambodia, Zambia, El Salvador and so on. Unswerving with the dependency theorists, breaking the cycle of the growing monetary disparities between the richer and poorer nations would be to attempt to become self-sufficient as much as possible, reducing the level of imports and setting up state control over the economy.

Eclectic Paradigm Theory

This theory is credited to Dunning (1979) with fundamental prominence on the fusing possession advantage (Competitive Advantage), Location Advantage (the existence of cheaper raw materials, labour etc) and internationalization advantage (core competences of the corporations) into one approach. This approach is of the view that those three classes of external sources need to be made jointly to make it allow for external capital influx into deficit financial sector.

The Two- Gap Model of Development

The two-gap technique is championed by Chenery and Strout (1956) with the idea that critical gap exists in the economy. These are the investment-savings gap and the foreign aid gap. The two-gaps are separate and impose independent constraints on the achievement of the growth targets in much less advanced counties (LAC). To fill the savings gap, external aid is needed to meet the home needs of national income. Correspondingly, the theory has fixed nexus assumed between target forex requirement and net export income. In this situation, if the net export income at any time falls short of the foreign exchange earnings, a foreign exchange gap is sure to occur and can be stuffed up by means of external aid. The two-gap approach can be explained in terms of the national income identities like $E - Y = I - S = M - X = E - F$. E is national expenditure, y is national income and output, I = investment, S = savings, M represents import, X = export, and F represents net capital influx. On this analysis, I-S represents domestic savings gap while M-X is the foreign exchange gap. In every economy, savings gap can arise when domestic savings rate fall short of the investment required to accomplishing the target. In Nigeria, the ability to mobilize savings considered vital and enough to achieved desired goal in the manufacturing sector remain too utopian a task on the part of the government. Savings - investment gap therefore, exist only to the point where domestic savings becomes too small to the magnitude necessary to obtain the needed rate of growth.

Portfolio Theory of International Capital Flows:

Developed by Michael B. Devereux and Makoto Saito in 2006, presented a tractable model of international capital flows in which the existence of nominal bonds and the portfolio composition of net foreign assets is an essential element in facilitating capital flows between countries. National monetary policies make domestic and foreign currency denominated bonds differ in the degree to which they can hedge country specific

consumption risk. This leads countries to have distinct composition of currency-denominated bonds in their national portfolios. By adjusting their gross positions in each currency's bonds, countries can achieve an optimally hedged change in their net foreign assets (or their current account), thus facilitating international capital flows. Moreover, the risk characteristics of optimal portfolios ensures that current account movements are sustainable -net debtor countries pay lower rates of return on their gross liabilities than they receive on their gross assets. This ensures that the distribution of wealth across countries is stationary.

Neoclassical theory of foreign portfolio inflows

Neoclassical theory of foreign portfolio inflows which predicts that capital should flow from capital-rich countries to capital-scarce countries, and the Lucas Paradox or why private capital doesn't seem to flow from rich to poor countries. It believes in basic economics argument that capital flows from low return avenues to high returns. However, what we find is opposite as capital flows from emerging markets (where returns are high) to developed markets (where returns are low)

Empirical Review

Asuru and Wosu (2017) investigate the influence of outside sector variables on the agricultural sector in Nigeria using annual time series data from 1980 to 2016. Based variable on this study is the agricultural output while the official development assistance (ODA), stock of external debt (SXD), exchange rate (EXR) and the balance of payments (BOPS) of Nigeria are the independent variables. The study employed the Augmented Dickey-Fuller test and the Phillips -Perron test procedure and the co-integration test was carried out to determine if a longer term relationship exists among the variables in the model. The DOLS result shows that each of one the variables together with balance of payments, exchange rate and official development assistance are key causes of agricultural expansion in Nigeria but SXD was insignificant statistically. The unit root test result displays that all the variables reached stationarity at first difference except SXD that attained stationarity at levels. The co-integration result revealed the presence of a long term association among the variables. Based totally on the result, it is recommended that government need revitalize the economy to cast off deficits balance of payments, make efficient use of some development assistance inflow and external debts be directed toward agricultural improvement in Nigeria. They concludes that agricultural development requires internal and external effort mainly in Nigeria which will enhance agricultural productivity for the reason that no country can exists in autarky and improve the agro-allied industries.

Chigbu, Ubah and Chigbu (2016) tested to understand if capital influx affects the economies of the growing nations particularly on Nigeria, Ghana and India, with the aid of time series data from 1986-2012. Econometric techniques used were granger causality test and Ordinary Least Square technique in its evaluation. The result shows that capital inflow has a tremendous and vast effect economic growth in Nigeria, Ghana and India. In the case of Nigeria and Ghana FDI, Foreign Port-folio investment and external borrowing

have effective and substantial nexus with economic growth while remittances have vast impact on of the three countries put together. Friendly macroeconomic environment was the major recommendation provided by the study with a strong appeal for more inflow of external resources or capital inflow especially to close the gap among savings-investment in the growth of the economies of the three nations.

Okafor, Ugochukwu and Chijindu (2016) investigated whether there exist any nexus among foreign capital inflow and economic growth using Toda Yamamoto test on time series data from 1981-2014. The study discovered that increase in foreign capital inflow could lead to positive economic growth of the country. They recommended that government have to implement policies and programme that would appeal to attract more inflow of foreign capital as this may lead to the growth of the Nigerian economy.

Effoing and Eke (2016) investigates the influence of external capital influx disaggregated into FPI, overseas aids/ grants and net export earnings on crop production in Nigeria. The ordinary least square (OLS) regression showed that capital influx has a positive insignificant effect on crop production in Nigeria. The study therefore advocate amongst other things that government need to put in place adequate incentives that will appeal to more overseas funding in agriculture, while aggressively promoting the export of its agricultural products. It also shows the need for greater overseas aids/ grants, whilst such funds must be channelled to different sectors of the economy with the inclination to grow the economy.

Abaukaka, (2014) examines the connection among foreign direct investment and employment era in Nigeria. The use of more than one linear regression for data which covers the duration from 2002 to 2012 was carried. To empirically determine the relationship, a few variables are integrated into the econometric model which incorporates employment level as the dependent variable and the explanatory variables are FDI, GDP and the nominal interest rate. From the empirical result, FDI show off bad nexus with the employment level in Nigeria. whilst GDP, interest rate are definitely associated with the level of employment but none of the explanatory variables drastically impacted on the extent of employment in Nigeria within the duration of the study. The paper recommends amongst others that government ought to placed mechanism whereby the research institutions have partnership pass with fundamental industries in Nigeria to broaden skills which are adaptable within the modern-day process marketplace and government need to make certain that the needed infrastructural facilities are supplied to attract more investors.

Model Specification

The mathematical functional form of the model is given as:

$$MSO = (EXD, FDI, FPI) \tag{1}$$

The econometric linear form of the model is given as

$$MSO = \beta_0 + \beta_1 EXD + \beta_2 FDI + \beta_3 FPI + \mu_t \tag{2}$$

Where:

- MSO= Manufacturing sector at time t
- FDI= foreign direct investment at time t
- FPI =foreign portfolio investment at time t
- EXD = external debt at time t
- β is the intercept
- $\beta_1, \beta_2,$ and β_3 are parameter estimates
- μ_t is an uncorrelated stochastic error term at time t

Discussion and Analysis of Result

Table 1: OLS Multiple Regression Result, 1980- 2016

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.013796	3720.542	8.100423	0.0000
EXD	13.09273	3.097710	4.226585	0.0002
FDI	-0.222296	0.055140	-4.031456	0.0004
FPI	-0.183990	0.153794	-2.196341	0.0220
R ² = 0.424697	F* =19.63936	AIC = 2.121616	SC = 2.303119	DW = 1.569193

Source: Authors Computation (E- VIEW 9.0)

External debt and manufacturing sector output

The coefficient of the external debt is 13.09273units. This reveals that a unit change in external debt tends to increase manufacturing sector output by 13.09273units. The connection between external debt and manufacturing sector output is positive. The result is in line with economic theory and apriori expectation. The t^* value is 4.226585, which implies a statistically significant association at 5 per cent level between external debt and manufacturing sector output in Nigeria within the review period. The null hypothesis is rejected to the acceptance of the alternative hypothesis. Government policies therefore, should be targeted towards inflow of resources and carefully monitored to implementation level under suitable macroeconomic environment for such inflows.

Foreign direct investment and manufacturing sector output

The coefficient of foreign direct investment is -0.222296 units. This exposes the marginal sector output such that a unit change in FDI causes manufacturing sector output to reduce by -0.222296 units, ceteris paribus. A pointer to an inverse relationship between the two variables. To say the most, the result has no theoretical apriori support and is in-fact against economic theory. This is very probably so because of the management panache's of foreign direct investors as in most cases, they do not plough back foreign direct investment proceeds rather siphoning them to their domestic economies. Foreign Direct Investment baits out the income of the manufacturing sector. Though the t^* value is -4.031456 implies statistically, significant relationship between FDI and manufacturing sector output over the period. The null hypothesis is rejected. Traceably, FDI inflow has been mismanaged in the past, hence Government policies aimed at re-directing this situation be urgently put in place in order for FDI to have the desired effect on the economy of Nigeria.

Foreign portfolio investment and manufacturing sector output

The coefficient of foreign portfolio investment (FPI) is -0.183990 units. This exposes that an FPI tends to decrease manufacturing sector output with a corresponding unit change of -0.183990. The relationship between FPI and manufacturing sector output is inverse. The t^* value is -2.196341 which implies a statistically significant relationship at 5 per cent level between FPI and manufacturing sector output in Nigeria within the review period. The null hypothesis is rejected but the alternative hypothesis is not rejected. The result is so because over the years, FPI has been mismanaged by Government officials and so policies aimed at re-directing this should urgently be put in place for FPI to have the expected positive impact on the economy of Nigeria.

Table 2: Granger causality test

Null Hypothesis:	Obs	F-Statistic	Prob.
EXD does not Granger Cause MSO	29	3.10456	0.0121
MSO does not Granger Cause EXD		2.90930	0.0412
FDI does not Granger Cause MSO	29	0.00521	0.9948
MSO does not Granger Cause FDI		0.61710	0.5479
FPI does not Granger Cause MSO	29	0.92760	0.4092
MSO does not Granger Cause FPI		0.52648	0.5973
FDI does not Granger Cause EXD	29	1.82593	0.1827
EXD does not Granger Cause FDI		0.07916	0.9241
FPI does not Granger Cause EXD	29	1.74421	0.1962
EXD does not Granger Cause FPI		3.69975	0.0398
FPI does not Granger Cause FDI	29	5.03040	0.0150
FDI does not Granger Cause FPI		0.72644	0.4940

Source: Authors Computation (E- VIEW 9.0)

The Granger causality test indicates that causality runs from external borrowing (EXD) to MSO and from MSO to EXD indicating bi-directional causality. Others exhibited independent causality except in FPI and EXD, FPI and FDI that exhibited uni-directional relationships respectively.

Conclusion

The study shows that the variables employed are key factors of manufacturing sector growth in the Nigerian economy. It suggests that external resources inflows are highly needed and necessity for the development of the Nigerian economy due to the observed critical role it has played in many developing countries. The study made use of the Ordinary Least Square (OLS) methodology and found the data used free from being spurious regression and on that ground, other robust regressions such as Unit root or Co-integration test were avoided. Given the empirical result, it means that FPI, FDI and EXD has impacted on the Nigerian economy significantly but there is no enough evidence to

show for this empirical result due to the underdeveloped nature of the Nigerian economy and corruption independence in Nigeria. Only EXD, FPI and the manufacturing sector output has bi-directional relationship. Though the result showed no positive relationship between foreign portfolio investment and manufacturing sector output and between foreign direct investment and manufacturing sector output, there is hope that it could perform better in the future if properly managed.

Recommendations

1. The Nigerian government should display high transparency through its various agencies to carry out an overhaul of the system to flush out corrupt officials who pocket external resources inflows with impunity and undue immunity.
2. Establish friendly macroeconomic environment to attract more foreign investments and sustainable foreign capital inflows in the economy.
3. The debt management office should be re-organized and re-awakened to streamline such external resource inflow to the productive sector like the manufacturing sector for better performance.

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