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An Empirical Investigation on Foreign Capital Inflows and Economic Development in Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. Author GTM designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors JEO and PEI supervise and managed the analyses of the study. Author PEI managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

In an attempt to attained sustainable level of economic development in a nation, empirical studies as well as financial theories posit that foreign capital inflows play a lead role. As such, this study set out to empirically investigate the extent to which foreign capital flows promotes economic development in Nigeria. Time series data between the periods 1986 to 2018 were sourced from the central bank of Nigeria statistical bulletin and world bank data based. The study proxied foreign capital flows using foreign direct investment, foreign portfolio investment, foreign aids and external borrowings which is decomposed into multilateral and bilateral loans while Human development index is used as proxy for economic development. The study further employed unit root test, co-integration test, error correction model and granger causality test to ascertain the direction of relationship. Findings reveal that of the five indices of foreign capital inflows, three (foreign portfolio investment, foreign aids and bilateral loan) prove to be significant in promoting economic development in Nigeria, while foreign direct investment and multilateral loan are negatively related to economic development in Nigeria. As such, the study conclude that foreign capital inflows in the form of foreign portfolio investment, foreign aids and bilateral loans are significant in boosting economic development in Nigeria. Therefore, we recommend that managers of the

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Nigerian economic should create an enabling financial environment as this will help in accelerating further inflows of portfolio investment and thus boost economic development in Nigeria.

Keywords: Financial capital inflows; economic development and error correction model.

1. INTRODUCTION

From the inception of political independence in most of the West African countries, inflows of foreign capital in form of foreign investment and multinational firms' operations have been partly useful in evaluating economic performance of member countries. In this perspective, studies including [1] as well [2] have argued that inflows of foreign capital through foreign direct investments and multinational firms' operations have on the average, significantly promoted advancement of Nigeria's economy over the years. However, Foreign Direct Investment (FDI) has emerged as one of the most important sources of external resource flowing to developing countries over the years and has become an integral part in the formation of capital in these countries [3].

Capital inflow according to [4] is the movement of capital resources from one country to another for the purpose of investment, trade and business activities. [5] define capital inflows as the quantum of foreign fund re-allocated to a particular country for investment and transactionary purposes. Capital inflows play a lead role in accelerating and achieving sustainable level of economic development in the LDCs. Meanwhile, the developed nation used it as a supporting tools in maintaining sustainable level of development while the LDC's used it to increase accumulation and rate of investments aimed at accelerating economic growth. For the transition countries, it is used in carrying out the reforms necessary from cross to open economy [6].

Capital Flows can also involve the purchase of assets, such as property, assets and government bonds. Further increase in the inflow of these capital will help in accelerating levels of Investments and initiate several benefits for the host economy. As such, the long run growth and development of an emerging economy like Nigeria requires persistent and massive investment expenditures that can match the dire need for capital. According to [7], the massive savings -investment gap has orchestrated the necessity for external financing in form of capital inflow to achieve sustainable level of economic development in developing countries especially Nigeria.

Report from the central bank of Nigerian statistical bulletin provided an evidence to assert that the quantum of foreign capital inflow into the Nigeria economy have increased over the years due to the standardization of the Nigerian capital market. These inflows penetrated into the economy in form of foreign direct investment, foreign portfolio investment, foreign aids, multilateral and bilateral trade and so on. However, for the past two decades, Nigeria witnessed a quasi-metamorphosis in the composition of private Capital inflows. Foreign portfolio investment (FPI) appears to have taken the centre stage as its share of private Capital flows to Nigeria has increased. As at 2007, Foreign Portfolio Investments has surpassed every other type of capital inflows into Nigeria with official flows and bank loans declining in real terms [8] as cited in [9]. The report of UNCTAD World business analysis (2015) shows that the Nigerian economy attracted the larger percentage of capital inflow budgeted for Africa to the tune of 63% of the total allocation to the sub African region and 41% of the total inflow into African continent generally. However, the central bank of Nigeria statistical bulletin 2017 issues reported that the economy benefited more from foreign capital inflows in form of foreign portfolio investment compare to foreign direct investment.

The quantum of foreign capital in form of direct investment that flows into Nigeria rose from N334.7 million in 1981 and pecked at N1,360,307.9 billion in 2011. It however, declined to N602,067.80 billion in 2015, but rose again to N1,124,149.0 billion by the end of the year 2016 while in 2017, a slight down fall was noted as FDI stood at N1,069.417 29 billion [8]. However, the Foreign Portfolio Investments (FPI) stood at N151.6 million in 1986 and later rose to N51,079.13 billion 2000. Between 2005 and 2010, foreign portfolio investment rose from 116.04 to 556. 59 billionnaira. And in 2018, the quantum of foreign portfolio inflows increases to 2604.33 compare to foreign direct investment 1069.42 respectively.

Although, there have been wide range of both conflicting and diversified opinions regarding the empirical influences of capital inflows and its effectiveness on economic development of both developed and developing nations. This is irrespective of whether the analyses were executed on aggregated, disaggregated, sectoral and/or growth basis as evidenced by the studies of [10,11,1,12]. It is also vital to observe that several and conflicting opinions prevail as to the resulting benefits and effects of foreign capital inflows, investments and multinational operational activities on several economies especially, the developing economies.

Andaersy [13] reported that Shortage and inefficiency in capital inflow has been recorded as a major impediment that militates against development of most developing countries. Further in the argument of transfer of technology, [14] contend that the major challenges facing the less developed countries is lack of sufficient inflows of foreign capital to establish an institution where new technology could be developed hence, the LDCs see importation of technology through foreign direct investment as a better chance to resuscitate economic development.

Empirically, the argument as to the effect of foreign capital inflows on economic development is far from being settled. [15,16,17,18,19] assert that foreign capital inflows through direct and portfolio investment is capable of promoting local enterprises by exposing them to international competition. This exposure makes them more efficient and effective thus, boosting their operating capacity in the long run. To them, foreign capital inflows in form of FDI and FPI inflows fuel job creation, increase productive capacity and facilitate advanced technological spill-over to the local enterprises. Conversely, [20,21,22,23], contended that foreign multinationals only operate to maximize their pecuniary interests as distinct from the interests of their host economies. These view argued that increased inflows of foreign investment tend to threaten the existence and survival of local industries due to high level of competition.

As such, this study set out to investigate the position of foreign capital inflows into the Nigerian economy and also to identify if the inflows is a tool or threat to economic development.

2. THEORETICAL UNDERPINNING

2.1 Argument of Technological Transfer

This argument as led by Charles [24] and cited in [25] asserted that developing nations has the resources for development, but lacks the capacity to transform this resources to accelerate sustainable level of desired economic development. Meanwhile, these transforming ability is what the developed countries (China, US, UK, UAE) has which makes them the giant of the world. As such, developing nations thus considered foreign capital inflows in form of foreign direct investment, foreign portfolio investment, foreign aids, home remittance, external borrowing and so on necessary to acquire the desired transformation and economic development. This foreign inflows will help facilitate the financial system and investment environment towards achieving development.

2.2 Dual Gap Analysis

This theory is an extension of [26,27] growth model. The model addresses two relative issue as reported by Monogbe and Achigbu [28] and they includes (a) foreign exchange gap in form of capital inflow (b) savings gap. The theory further assert that investment in form of foreign capital inflow is a vital stimuli in accelerating sustainable level of economic development in the LDCs. As such, to facilitate capital investment, domestic savings is essential. However, the theory further identified that returns generated from domestic saving may not be sufficient to accelerate economic development. Hence, there is a need for capital transfer (capital inflows) as this will help in resuscitating economic development of the LDCs. This suggest that economic development of any economy relies on effective synergy of investment, domestic savings and capital transfer.

2.3 Review of Related Literature

The controversy as to the extent to which foreign capital inflows promote or hinder economic development in the LDCs remains inconclusive. The empirical review conception of this study is structured under two different headings. The first view covers the Crowding-In School which asserts that inflows of foreign capital constitute a basic financial catalyst for economic development of the LDCs. The second view covers the Crowding-Out School which is of the

opinion that inflows of foreign capital through foreign direct investment and portfolio investment in the less developed countries (LDCs) are parasitic to economic development.

Crowding-in School: In an attempt to analyse the inter relationships between inflows of oil and non-oil foreign investments and how such inflows has promoted economic growth in Nigeria, [15] examine the relationships between the inflows of oil and non-oil related foreign investments as well as the extent to which these classified sectoral foreign investment inflows have proved significant in promoting Nigeria's economy. For analytical purposes, the study employed Error Correction model and Causality tests. Data were sourced from Central Bank of Nigeria's Statistical Bulletin over the period 1986 to 2017. The results of the Causality tests provide evidence that the inflows of oil and non-oil foreign investments have promoted Nigeria's economy over the years. The relationship is above all, contemporaneous. The results of the Error Correction estimation show that non-oil direct investments contribute more significantly to Nigeria's economy compared to oil related foreign investments. On these bases, the study suggests that Nigeria should emphasize more of non-oil foreign investment inflows as they appear to contribute more to economic growth in the economy.

Christopher et al. [29] investigated the nexus between capital flow and economic development in Nigeria using time series data between the periods 1980 to 2016. The objective of the study was to identify extent to which this various inflows has promoted economic development over the years. The study proxy economic development using economic growth while foreign direct and portfolio investment were proxies for capital flow. Co-integration test and error correction model was used in testing the hypothesis. Findings shows that the Nigerian economy attract more inflows of foreign portfolio investment in recent times compare to foreign direct investment and the standardization of the Nigerian capital market has resulted into more inflows. The study thus recommended that Nigerian capital market should be more stabilized to ensure further inflows of capital inflows.

Monogbe [30] empirically investigated capital inflow dynamics and economic development in Nigeria using time series data between the periods 1981 to 2014. The study proxy capital flow using bilateral loan, multilateral loan foreign direct investment and home remittances while economic development was proxies with human development index. The study employed error correction model, unit root test and granger causality test to ascertain the causality between the variables. Findings reveals that in the short run, bilateral loan promote economic development in Nigeria while in the long run, multilateral loan and home remittance are significant in the long run. The causality result provided an evidence to assert that capital inflow in form of bilateral and multilateral loan seem to promote economic development in Nigeria. The study concluded that the foreign capital inflow does not practically tell on the Nigerian economic development as the nation experiences more instability as such, the study recommending financial discipline and moral tolerance such be embraced in order to achieve the motive of foreign inflows and hence promote economic development in Nigeria in the long run.

Jean-louis et al. [31] presented a question that does it pour when it rains?, the question set out to address the extent to which various forms of inflows into the developing countries promote or repose economic development. The study conducted a panel analysis where 77 lower and middle income countries were considered between the periods 1980 to 2012 where generalize method of movement techniques was employed. Findings reveals that doubling capital inflow per capital is capable of increasing economic development to the tune of 50 percent all things been equal.

Samuel [32] investigated the effect of foreign capital flow on economic growth in Cameroun using time series data between the periods 1980 to 2008. The study proxy foreign capital inflow using foreign aids, domestic capital stock and foreign direct investment while gross domestic product was the proxy for economic growth. The study employed the auto regressive distributive lag methodology due to the mixed level of stationarity of the time series. Findings reveal that domestic capital stock and foreign direct investment significantly promote economic growth in Cameroon. The insignificant contribution of foreign capital inflows according to this paper could be attributed to the fact the Cameroon is a developing countries with less developed capital market and equipment to accelerate and transmitted foreign inflows.

Crowding-Out School: Conversely, the view that foreign capital inflows in form of foreign

direct investment crowd out economic development as reported by [20,21,22,23], contend that foreign multinationals only operate to maximize their pecuniary interests as distinct from the interests of their host economies. These view argues that increased inflows of foreign investment tend to threaten the existence and survival of local industries due to high level of competition. The induced competitions are varied and range from technological to branding, as well as pricing. These competitive strategies tend to increase unemployment rate through the introduction of capital intensive production strategy in a locally labour intensive environment.

Sevarel authors [33,34,35], explore more of the negative effects of foreign capital inflows in place of their positive contributions in the LDCs. These studies assert that foreign inflows do more harm than good to the LDCs. For instance, they observe that excessive inflows of foreign investments into the LDCs could result in high level of unemployment through the window of extensive deployment of capital intensive strategies in a local intensive environment. Further, the local enterprises are consequently exposed to technological competition which may crowd them out of business.

Uwubanmwen and Ogiemudia [36] empirically investigated the influence of foreign capital inflow in form of foreign direct investment on performance of manufacturing firms in Nigeria. The study cover a period of 1979 to 2013. The study adopted the descriptive methodology and granger causality test. Foreign aids, foreign direct investment and foreign portfolio were proxies foreign capital inflow while gross domestic product were proxies for economic growth in Nigeria. Findings shows that operations of the foreign investor in form of foreign direct investment has no significant influence on economic growth in Nigeria. Meanwhile, high level of competition surface between local investors and foreign investors and in most cases, local investors freeze out of business due to their inability to contest with the foreign multinational.

The studies of Onyali and Okafor [37] provide evidence to show that inflows of foreign investments into Nigeria are not adequate to meet the required level of funding to accelerate development of the economy. The study suggests that local investors should be additionally encouraged in order to compliment the investments from foreign sources. The study employed the auto regressive distributive lag where time series data where source from the central bank of Nigeria statistical bulletin between the period 1980 to 2012.

Yaqub et al. [38] using vector error correction model investigated the influence of foreign capital inflow on economic growth in Pakistan using time series data from the period 1981 to 2010. Report from the study provided an evidence to assert that excessive inflows of foreign capital could be promote foreign investment in while the local investors in the host country might be strike out of business due to competition.

2.4 Knowledge Gap

Reviewing the aforementioned literature, it can be seen that various scholars shy away from economic development as opposed to growth, and majority of scholars had an open approach as they concentrated more on foreign direct investment as a measure for foreign capital inflows. Hence, this study seek to fill in this gap by incorporating human development index as a measure of economic development as recommended by the association of world economic and also de-aggregating foreign capital inflows into; foreign direct investments, foreign portfolio investments, foreign aids, multilateral and bilateral loan between the periods 1986 to 2018 using error correction model for data analysis techniques.

3. METHODOLOGY

3.1 Research Design and Data Source

The research design for this study is the hypothetic research design where each variables will be tested alongside the empirical result to see if they align with theoretical sense and previous empirical study. The choice of this research design is anchored on the fact that the direction of relationship among the series under study cannot be intuitively identify until the proper analysis is done. The data for this study is time series data sourced from the central bank of Nigerian statistical bulletin 2018 issues and index mundi. Due to the nature of the study, we proxies foreign capital inflows using foreign direct investment, foreign portfolio investment, foreign aids, external borrowing which is disaggregated into multilateral and bilateral debt while human development index is used as a proxy for economic development. We further convert our data set to growth rate because the human development index is in rate. As such, this will

enable us attain uniformity of measurement. The study scope however cover the periods 1986 to 2018 accordingly.

3.2 Model Specification

In line with the classical linear regression model assumption and other related study, we formulate our model in the functional form accordingly,

$HDI_t = f(BLT_t, MTL_t, FDI_t, FAD_t, FPI_t))$ (1)

Converting to econometric form by the introduction of the constant term (α_0) and error term (μ)

$HDIt = \alpha_0 + \alpha_1 BLT_t + \alpha_2 MTL_t + \alpha_3 FDI_t + \alpha_4 FAD_t + \alpha_5 FPI_t + \mu$ (2)

Where:

HDI = Human Development Index
BLT = Bilateral loan
MTL = Multilateral loan
FDI =Foreign Direct Investment
FPI = Foreign portfolio investment
FAD = Foreign Aids
α_0 =Constant Term
$\alpha_1 – \alpha_5$ = Coefficients of Predictors

Apriori expectation: Following the theoretical postulation and empirical underpinning, we expect that increase in capital inflows proxied will promote economic development in a positive manner. This can be written in a mathematical form according $\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5 > 0$

3.3 Method of Data Analysis

Stationarity Test: To start with, we subject our time series to reliability test as this we prevent us from having a spurious result and unreliable report. The decision rule is that the Augmented Dickey-Fuller test statistics should on absolute bases, be higher than the corresponding Mackinnon critical values at 5% level of significance for all the study variables.

Co-integration Test: In an attempt to analyse the long run relationship that transpire between the series, we subject our time series to long run test using johansen co-integration. The decision rule is that the Trace or Max-Eigen statistics whichever is employed, must be higher than the critical values at 5% level according to [39].

Error Correction Model: To identify the speed and coefficient at which error in the short run is corrected in the long, error correction model is used. As a decision rule, while the ECM coefficient is expected to be negative, additionally, the resultant coefficients of the explanatory variables as well as that of ECM must be significant at 5% level for null hypotheses of no significance to be rejected.

Granger Causality Test: To identify the direction of influence between the series under investigation, we considered causality test as this will give us edge to ascertain how one variables promote or influence the order. In this circumstance, the inclusion of the lagged values of each of the study variables will be deemed to have improved the explanation if the coefficient of the lagged variable is significant and vice-versa, according to Maddala [39]. These are shown in equations 3 and 4 below:

$$y_i = £o + \sum_{i=1}^{n} £1\, y_{i-1} + \sum_{i=1}^{n} £u\, X_{i-1} + Ut \quad (3)$$

$$x_i = \delta o + \sum_{i=1}^{n} \delta 1\, x_{i-1} + \sum_{i=1}^{n} \delta u\, Y_{i-1} + Vt \quad (4)$$

4. RESULT PRESENTATION AND INTER-PRETATION

4.1 Presentation of Stationarity Test Results

The results of the Stationarity test executed for this study are presented in Table 3.

Following the report of the stationarity test, we gather an evidence of reliability among the series at first differencing in the order of i(1) integration. This is judged based on their respective significant P-value and the ADF statistics which is greater than the critical value at all level. As such, we conclude that the series under investigation is reliable and can be used for further empirical investigation.

A long run association is evidenced from the result presented in Table 4. This is identified based on the two ranking order found in the table. To this extent, we concluded that long run relationship exist between the series under investigation.

The essence of error correction model is to identify the pace at which the disequilibrium in the model is adjusted in the long run. Report from this study provided an evidence to assert that the disequilibrium is corrected to the tune of 0.5017. This can be evidenced from the ecm (-1) coefficient of -0.5017 alongside a significant P-value of 0.0111.

Table 1. Results of stationarity test

Variables	ADF Stat	Test Critical Values	Order of Integration	Prob.
D(HDI)	-7.00666	1% level = -3.670170	i(1)	0.0000
		5% level = -2.963972		
		10% level = -2.621007		
D(MLTL)	-10.48749	1% level = -3.670170	i(1)	0.0000
		5% level = -2.963972		
		10% level = -2.621007		
D(BILT)	-7.206932	1% level = -3.831511	i(1)	0.0000
		5% level = -3.029970		
		10% level = -2.655194		
D(FADS)	-6.688753	1% level = -3.679322	i(1)	0.0000
		5% level = -2.967767		
		10% level = -2.622989		
D(FDI)	-6.669249	1% level = -3.689194	i(1)	0.0000
		5% level = -2.971853		
		10% level = -2.625121		
D(FPI)	-22.94202	1% level = -3.670170	i(1)	0.0001
		5% level = -2.963972		
		10% level = -2.621007		

Source: Extracts from E-views 10.0 Output

Table 2. Results of Johansen's Co-integration Test

Date: 09/19/19 Time: 15:43
Sample (adjusted): 1988 2018
Included observations: 33 after adjustments
Trend assumption: No deterministic trend (restricted constant)
Series: HDI FDI MLTL FPI FADS BILT
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.639215	112.1672	103.8473	0.0126
At most 1 *	0.582917	78.52458	76.97277	0.0379
At most 2	0.474907	49.66704	54.07904	0.1168
At most 3	0.306802	28.40909	35.19275	0.2235
At most 4	0.237166	16.31657	20.26184	0.1601
At most 5	0.200466	7.382964	9.164546	0.1076

*Trace test indicates 2 cointegrating eqn(s) at the 0.05 level; * denotes rejection of the hypothesis at the 0.05 level*
***MacKinnon-Haug-Michelis (1999) p-values; Source: Extraction from E-views*

However, of the five proposed indices of foreign capital inflows, three prove to be significant in promoting economic development in Nigeria. Foreign portfolio investment exhibited a positive coefficient of 0.5483 with a significant P-value of 0.0001 thus suggesting a direct relationship among the series. The economic implication of this is that further increase in foreign capital inflows is capable of promoting economic development to the tune of 0.54832 unit all things been equal. The result is further in line with our apriror expectation and inconsonant with the report of the [40] and [41,42] whose record suggested that the Nigerian economy benefited more from foreign capital inflow over two decades. Foreign aids and bilateral loan significantly promote economic development in Nigeria. Foreign aids exhibited a positive coefficient of 0.08643 alongside a significant P-value of 0.0386 while bilateral trade exhibited a positive coefficient of 0.09332 alongside a P-value of 0.0066 thus suggested that direct relationship exist between the series. The report from this study is in consonant with our aprirori expectation and the empirical report of [43] and [44].

To this end, report from this study provide an evidence to assert that foreign capital inflow in form of foreign portfolio investment, foreign aids

and bilateral trade are significant in promoting economic development in Nigeria.

The global statistics provided an evidence to assert that foreign capital flow indices jointly account for about 63% variation in economic development while the remaining 37% is taken care of by the error term. The Durbin Watson statistics exhibited a coefficient of 1.9214 thus suggesting absence of auto correlation while the F-statistics and its corresponding P-value exhibited a significant coefficient of 0.02281 thus suggesting the overall significance of the estimated parameter.

The causality between foreign capital inflow measures (foreign direct investment, foreign portfolio investment foreign aids, bilateral loan and multilateral loan) all manifested Schumpeterian independence hypothesis. In this instance, they appear to be operating independent of economic development in Nigeria.

4.2 Diagnostics Test

The essence of this test is to establish the adequacy and viability of our study model to enable us make conclusion and recommendations.

From the out-put of the Jarque Bera normality test, the mean value of the variable is greaterthan the median value which is expected. However, the standard deviation is generally high which captures the volatility of the data used in the process of research while the coefficient of the symmetry (Skewness) of the entire variable is positively skewed to the right towards normality. Meanwhile, the kurtosis of all the variables is greater than 3 which shows that they are all leptokurtic in nature. Judging by 5% level of significant, all the variables used in the process of this research are normally distributed going by the Jarqu- Bera probability value which is greater than 5% level of significant. Hence, we conclude that the residual in this model are normally distributed.

To justify the fitness of our model, we employed LM serial correlation test. The result above reveals absent of serial correlation due to the chi square (2) value which is greater than the 5% level of significant. On this premise, we reject the null hypothesis and concluded that our model is fit and free from serial correlation. Hence, the outcome of this empirical findings is prudent enough for decision making.

Heteroskedasticity test is a diagnostic test that tends to check if hetero exist in a study model or not. Presence of hetero implies that the study model is against the classical linear regression model assumption. The result above shows an absence of heteroskedasticity problems as its Observed R^2 exhibited a coefficient of (0.0855)

Table 3. Presentation of error correction model

Dependent Variable: HDI
Method: Least Squares
Date: 09/20/19 Time: 14:03
Sample (adjusted): 1987 2018
Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.547480	0.011517	47.53501	0.0000
FDI	-0.975493	1.056349	-0.517399	0.6096
FPI	0.548325	0.325694	0.856627	0.0001
FADS	0.086434	1.096484	2.189110	0.0386
BILT	0.093323	1.090588	0.690381	0.0066
MLTL	-0.890434	0.109358	-0.711400	0.4837
ECM(-1)	-0.501726	0.182209	2.753573	0.0111
R-squared	0.733431	Mean dependent var		0.530000
Adjusted R-squared	0.691789	S.D. dependent var		0.050728
S.E. of regression	0.042690	Akaike info criterion		-3.274010
Sum squared resid	0.043739	Schwarz criterion		-2.950206
Log likelihood	57.74715	Hannan-Quinn criter.		-3.168458
F-statistic	3.060044	Durbin-Watson stat		1.921499
Prob(F-statistic)	0.022816			

Source: Extraction from E-views

which is greater than 0.05%. Following this pedigrees, we conclude that there is an existence of homosckedasticity which suggest that our residuals are normally distributed and thereby validating the classical linear regression model assumption (CLRMA).

Table 4. Granger causality test

Pairwise Granger Causality Tests
Date: 09/20/19 Time: 15:18
Sample: 1986 2018
Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
FDI does not Granger Cause HDI	31	1.01294	0.3228
HDI does not Granger Cause FDI		0.37919	0.5430
FPI does not Granger Cause HDI	31	0.70092	0.4096
HDI does not Granger Cause FPI		0.00532	0.9424
FADS does not Granger Cause HDI	31	1.76527	0.1947
HDI does not Granger Cause FADS		1.29582	0.2646
BILT does not Granger Cause HDI	31	1.09368	0.3046
HDI does not Granger Cause BILT		0.31909	0.5767
MLTL does not Granger Cause HDI	31	0.34824	0.5598
HDI does not Granger Cause MLTL		0.56234	0.4596

Source: Extraction from E-view

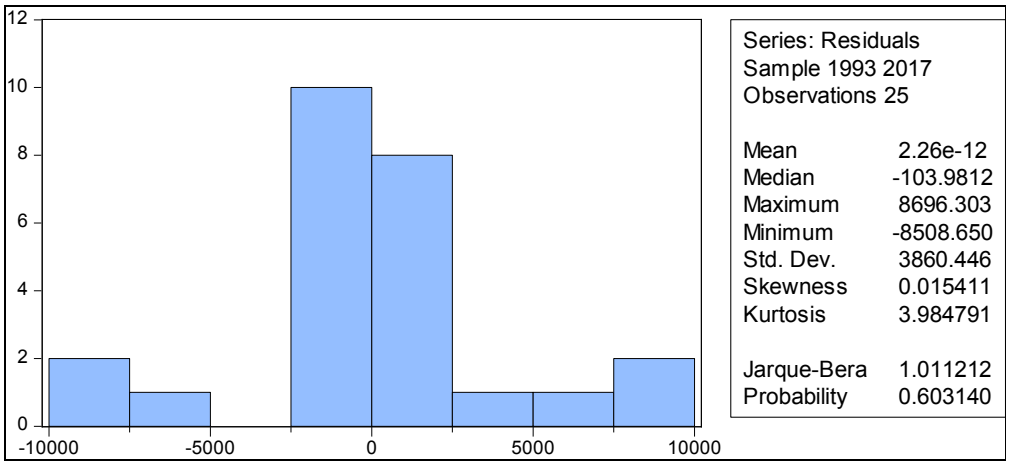

Fig. 1. Presentation of Jarque-bera Normality Test
Source: extraction from e-views 9

Table 5. Presentation of Breusch-Godfrey serial correlation test

Breusch-godfrey serial correlation LM test:			
F-statistic	0.014708	Prob. F(1,16)	0.9050
Obs*R-squared	0.022960	Prob. Chi-Square(1)	0.8796

Source: Extraction from E-views 9

Table 6. Heteroskedasticity Test

Heteroskedasticity test: Breusch-Pagan-Godfrey			
F-statistic	2.424744	Prob. F(7,17)	0.0644
Obs*R-squared	12.49014	Prob. Chi-Square(7)	0.0855
Scaled explained SS	8.619243	Prob. Chi-Square(7)	0.2812

Source: Extraction from E-views 9

5. DISCUSSION OF FINDINGS

5.1 Foreign Direct Investment and Human Development Index

Foreign direct investment is expected to promote economic growth through the window of technological transfer and innovation. Report from this study provided an evidence to assert that negative relationship exist between foreign direct investment and economic development in Nigeria which is against our apriori expectation. This thus suggested that the Nigerian economic is not benefiting from inflows of foreign direct investment. The insignificant contribution of foreign direct investment in Nigeria could be attributed to economic instability which resulted into closure of many multilateral firm in Nigeria thereby renouncing economic development. The report from this study is in consonant with the empirical study of [33,34,35,36,37] whose study suggested that foreign direct investors do more harm than good in the LDCs. They contend that foreign multinationals only operate to maximize their pecuniary interests as distinct from the interests of their host economies. These view argues that increased inflows of foreign investment tend to threaten the existence and survival of local industries due to high level of competition.

5.2 Bilateral Loan and Human Development Index

Bilateral loan are in form of grants and other allocation allocated to the LDCs for the purpose of accelerating economic development. From our apriori expectation, we expect a direct relationship between the series under investigation. Report from our study alien with our expectation. As such direct relationship exist between bilateral loan and human development index in Nigeria. The report of this study is in line with that of [25] whose study suggested that bilateral loan is of more benefit to African compare to the multilateral loan due to its tolerable interest condition.

5.3 Foreign Aids and Human Development Index

Report from the result presented in Table 5 provided an evidence to assert that foreign aids in form of royalties, aids, grants and so on has help in boosting economic development in Nigeria. This is evidenced from its significant P-value and a positive coefficient. The report is inconsonant with our apriori expectation and the empirical report of Ohaze and Meyers [45] whose study reported that various grants in form of aids and token allocated to Ghana has help the Ghanaian government in accelerating economic development of the country especially in the areas of infrastructure and industries. The economic implication of this result is that further increase in foreign aids is capable of promote human development in Nigeria to the tune of 0.08643.

5.4 Foreign Portfolio Investment and Human Development Index

Report shows that foreign portfolio investment significantly promote economic development in Nigeria. This is evidenced from its positive coefficient and a significant P-value thus suggesting the existence of direct relationship among the series. The economic implication of this study is that further increase in the inflow of foreign capital inflow in Nigeria is capable of promoting economic development to the tune of 0.54832. The report from this study is in consonant with the empirical study of [46,40,47] whose study suggested that Nigerian economic has benefited more from foreign capital inflow in the last three decades compare to foreign direct investment.

5.5 Multilateral Loan and Human Development Index

Report has provided an evidence that multilateral loan exhibited a negative coefficient alongside an insignificant P-value which suggest the existence of inverse relationship among the series. This thus suggested that further increase in multilateral loan will bring about decrease in human development index.

6. CONCLUSION AND RECOMMENDA-TION

The objective of this study is to empirically investigate foreign capital flow and economic development in Nigeria using time series data between the periods 1986 to 2018. The study proxied foreign capital flow using foreign direct investment, foreign portfolio investment, foreign aids and external borrowings which is decomposed into multilateral and bilateral loans while human development index is used as proxy for economic development as recommended by the Association of World Economics (AWE).

In line with the result of this study, we conclude that foreign capital inflows in form of foreign portfolio investment, foreign aids and bilateral loans are significant in promoting economic development in Nigeria.

6.1 Recommendations

- Based on the report that foreign portfolio investment seem to promote economic development in Nigeria, we recommend that managers of the Nigerian economic should create an enabling financial environment such as adequate regulation of the financial system, guild against sharp practices in the financial system, reviewing and amendment of the prudential guideline for operation and so on as this will help in accelerating further inflows of portfolio investment and thus boost economic development in Nigeria.
- Since report has further shown that foreign direct investment does not seem to contribute to economic development in a positive manner and its inability to significantly contribute to the development of the economy could be attributed majorly to economic instabilities, we recommend that the managers of the Nigerian economic should work toward ascertaining economic stability as most foreign investor prefer investing in a stable economy where returns on investment is guarantee.
- Finally, policy that will encourage effective utilization of borrowed funds on capital project such that returns generated from those project will be enough to payback interest on the loans should be implemented, while appropriate survalliant team should be established to monitor how government funds are been utilized as this will enable the government achieve prudency.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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APPENDIX

Table A1. Data presentation

Years	HDI	FDI(#Billion)	FPI(#Billion)	MLTL(#Billion)	BILT(#Billion)	FADS(#Billion)
1986	0.51	735.8	151.6	4.67	4.15	1.98
1987	0.52	2452.8	4353.1	8.78	20.63	5.47
1988	0.52	1718.2	2611.8	9.99	25.74	6.00
1989	0.53	13877.4	-1618.8	21.47	35.07	6.36
1990	0.54	4686	-435.2	34.61	40.95	7.73
1991	0.54	6916.1	-594.9	39.46	43.56	21.73
1992	0.58	14463.1	36851.8	89.27	64.14	63.21
1993	0.53	29660.3	-377	81.46	69.67	75.45
1994	0.58	22.23	-0.2	97.06	70.07	121.23
1995	0.53	75.94	-5.79	97.04	69.26	154.55
1996	0.59	111.29	-12.06	102.63	47.08	173.05
1997	0.55	110.45	-4.79	96.20	35.48	324.73
1998	0.52	80.75	-0.64	93.21	35.15	400.38
1999	0.67	92.79	1.02	361.19	136.52	404.21
2000	0.64	115.95	51.08	379.04	158.49	476.73
2001	0.6	132.43	92.52	313.50	144.75	420.00
2002	0.57	225.22	24.79	375.70	146.34	417.57
2003	0.44	258.39	23.56	413.88	123.99	458.26
2004	0.46	248.22	23.54	384.25	106.56	1,885.66
2005	0.47	654.19	116.04	330.65	85.53	2,320.27
2006	0.48	624.52	360.29	332.22	64.83	2,475.51
2007	0.48	759.38	332.55	374.30	0.00	3,220.82
2008	0.49	971.54	157.16	464.56	0.00	3,737.28
2009	0.49	1273.82	70.94	524.20	0.00	4,196.84
2010	0.48	905.73	556.59	635.45	0.00	2,028.58
2011	0.49	1360.31	792.36	723.12	0.00	0.00
2012	0.51	1113.51	2687.23	828.72	0.00	0.00
2013	0.52	875.1	2130.18	986.84	0.00	0.00

Years	HDI	FDI(#Billion)	FPI(#Billion)	MLTL(#Billion)	BILT(#Billion)	FADS(#Billion)
2014	0.52	738.2	832.39	1,142.29	0.00	1142.29
2015	0.53	602.07	498.13	1,489.41	0.00	1543.67
2016	0.53	1124.15	477	2,436.41	0.00	1768.53
2017	0.53	1069.42	2604.33	31,338.81	7,258.32	1827.42
2018	0.54	1078.21	2540.98	29,654.94	7,893.65	1953.32

Source: extraction from CBN statistical bulletin and index mundi

Since few of our data are in Billions while HDI is in rate, we proceed to convert all our data to growth rate to ensure uniformity of measurement. The growth rate data is presented in Table 2 below.

Table A2. Data presentation in growth rate

Years	HDI	FDI	FPI	MLTL	BILT	FADS
1986	0.51	233.35	2771.44	88.01	396.91	177.06
1987	0.52	-29.95	-40.00	13.78	24.75	9.64
1988	0.52	707.67	-161.98	114.91	36.23	5.97
1989	0.53	-66.23	-73.12	61.16	16.78	21.48
1990	0.54	47.59	36.70	14.02	6.38	181.18
1991	0.54	109.12	-6294.62	126.25	47.24	190.93
1992	0.58	105.08	-101.02	-8.76	8.62	19.36
1993	0.53	-99.93	-99.95	19.15	0.58	60.69
1994	0.58	241.61	2795.00	-0.02	-1.16	27.49
1995	0.53	46.55	108.29	5.76	-32.02	11.97
1996	0.59	-0.75	-60.28	-6.27	-24.65	87.65
1997	0.55	-26.89	-86.64	-3.10	-0.91	23.30
1998	0.52	14.91	-259.38	287.49	288.39	0.96
1999	0.67	24.96	4907.84	4.94	16.09	17.94
2000	0.64	14.21	81.13	-17.29	-8.67	-11.90
2001	0.6	70.07	-73.21	19.84	1.10	-0.58
2002	0.57	14.73	-4.96	10.16	-15.27	9.74
2003	0.443	-3.94	-0.08	-7.16	-14.06	311.49
2004	0.463	163.55	392.95	-13.95	-19.74	23.05
2005	0.465	-4.54	210.49	0.47	-24.20	6.69
2006	0.475	21.59	-7.70	12.67	-100.00	30.11
2007	0.479	27.94	-52.74	24.11	#DIV/0!	16.03
2008	0.485	31.11	-54.86	12.84	#DIV/0!	12.30
2009	0.49	-28.90	684.59	21.22	#DIV/0!	-51.66
2010	0.484	50.19	42.36	13.80	#DIV/0!	-100.00
2011	0.494	-18.14	239.14	14.60	#DIV/0!	#DIV/0!
2012	0.512	-21.41	-20.73	19.08	#DIV/0!	#DIV/0!
2013	0.519	-15.64	-60.92	15.75	#DIV/0!	#DIV/0!
2014	0.524	-18.44	-40.16	30.39	#DIV/0!	35.14
2015	0.527	86.71	-4.24	63.58	#DIV/0!	14.57
2016	0.53	-4.87	445.98	1186.27	#DIV/0!	3.33
2017	0.53	-6.36	467.45	1043.21	-34.42	3.03
2018	0.542	-100.00	-100.00	-100.00	-100.00	-100.00

Source: Author Computation

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