

## **THE EFFECTS OF FOREIGN PRIVATE CAPITAL ON FINANCIAL SYSTEM DEVELOPMENT IN NIGERIA**

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### **ABSTRACT**

This paper focuses on investigating the impact of foreign private capital on financial system development in Nigeria with recourse to the two major sources of external private capital as foreign direct investment (FDI) and foreign portfolio investment (FPI) between 1981 and 2014. The main objective of this study is to ascertain the impact of foreign private capital on financial system development in Nigeria, while the specific objectives are to determine the effects of FDI and FPI on stock market development and banking sector development in Nigeria. Towards achieving both the main and specific objectives of this study, econometric procedures of regression analysis and descriptive statistics, unit root test, co-integration test and OLS were used to determine the relationship between the regressors and the regressand. The data used were mainly secondary data collected from sources such as the Central Bank of Nigeria (CBN), the World Bank and the Nigerian Bureau of Statistics Bulletins. Findings from this study revealed that FDI and FPI inflow has not had any significant impact on financial system development, and stock market development. However, the impact on banking sector development has been significant. the Federal Government (FG) should embark on better and more stringent consolidating reforms of the country's financial system to serve as the veritable impetus for businesses to thrive very well in the Nigerian economy.

**Keywords:** Finance, Investment, Banking, Stock Market

### **1.0 INTRODUCTION**

The importance of external private capital in an economy cannot be over-emphasized especially as it concerns the development aspirations of emerging economies. The effective mobilization and harnessing of external private capital to a large extent depends on the development of the financial sector as foreign private investment (FPI) in particular will thrive in a developed financial system where there are financial instruments such as securities, debentures and others alike. Capital as a paramount missing input in the accelerated and sustainable economic growth

and development of the less-developed countries (LDCs) has been established by many scholars thus the vicious cycle between capital and under-development needs to be eliminated.

For example, Meier (1984) posited that external capital often fills both the savings and foreign exchange gaps. Essentially, in the two-gap analysis which states that developing countries could neither save enough nor import enough capital goods to satisfy their investment needs, foreign capital is needed to augment domestic capital for desired economic growth and development. In underscoring the importance of foreign capital, in 2011, developing countries (excluding China and India) mobilized about \$2.8 trillion of development financing out of which \$0.5 trillion was sourced from private capital. Over a fifteen year period from the late 1990s to 2011, financing has more than doubled in real terms for FDI and FPI.

Falegan (1987) pointed out that the Nigeria's financial system has been maladapted as a result of its weaknesses or deficiencies such as inadequate financial instruments, poor legal framework, institutional gap and administrative problem among others in the country's economy. Thus, there exist a disconnection between finance and the real sector of Nigerian economy. In spite of the influx of FDI and FPI into the Nigerian economy, the financial system development of the country is still fraught with many flaws and uncertainties.

Hitherto, it is also imperative to state that few studies examined the impact of FDI on financial system while studies of FPI on financial system development are also scanty. There is, therefore, a deficiency in existing literature for the investigation on the impact of FDI and FPI on financial system development especially in Nigeria. There have been two opposing schools of thought on whether or not foreign private capital (i.e. FDI and FPI) has the capacity to catalyze the needed financial system development in developing countries such as Nigeria.

The first school of thought argued that foreign private capital influences positively the financial system development (Hicks, 1969) while, the second school of thought vehemently opposed it by arguing that financial system development does not need the impact of foreign private capital. This creates the motivation for this study to ascertain the effects of FDI and FPI on financial system development in Nigeria. The broad objective of this study is mainly to investigate the effects of foreign private capital on financial sector development in Nigeria with associated specific objectives such as examining the impact of foreign direct investment on stock markets development, the impact of foreign direct investment on banking sector development, the impact of foreign portfolio investment on stock market development.

## **2.0 LITERATURE REVIEW**

The Nigeria financial system encompasses the money market, the capital market and the banking and non-bank financial institutions including the channels that facilitate smooth financial

intermediation in the economy (Ajayi and Ojo, 1981). Ezike (2003) asserted that besides domestic input, the financial development of a country's economy requires adequate foreign capital particularly foreign direct investments (FDI) and foreign portfolio investments.

According to Adaramola (2015) FDIs are very paramount to the development of financial systems and economies of developing countries such as Nigeria. The benefits derivable from FDIs by such countries include employment creation, transfer of technology, increased domestic competition, supplementing domestic investment and other positive externalities. Nigeria, however, has not recorded a substantial inflow of FPI into the country over time as FPI is volatile and more sensitive to the degree of market openness and development and the quality of host country's institutions. Paul (2012) highlighted some of the determinants for a company to invest abroad namely; costs of transportation, strategic rivalry (Borker's theory), product life cycle (Vernon's theory), location-specific advantages (Dunning theory), cost of resources, infrastructure-related factors, administrative productivity and efficiency, and laws, rules and regulations.

Talking of the financial system FitzGerald (2006) defined financial system development as the establishment and expansion of institutions, interests and markets for investments and growth process while, Ojo (1976) referred to financial system development as the development of the overall financial sector of the economy which is very crucial for the country's overall economic growth and development.

According to De la Torre and Schmulker (2007), financial system development can boost economic growth through diverse mechanisms such as reduction in the cost of acquiring and processing information, hence improving resource allocation and economic growth; helping investors to mitigate idiosyncratic risk by providing mechanism for trading, pooling and diversifying risks; improving corporate governance via reduction in monitoring costs; and reducing transaction costs thereby increasing savings, exploiting economies of scale and overcoming investment indivisibilities.

According to Beck, Levine & Markusen (1984), five key functions to be performed effectively and efficiently by the financial system towards overall economic growth and development of the country are: (i) producing information ex ante about possible investments and allocate capital; (ii) monitoring investments and exerting corporate governance after providing finance; (iii) facilitating the trading, diversification and management of risk; (iv) mobilizing and pooling savings; and (iv) easing the exchange of goods and services. Hence, financial system development process takes place when financial instruments, markets and intermediaries ease the effects of information, enforcement and transaction costs and, therefore, enables the financial system to perform very effectively its key roles in the economy.

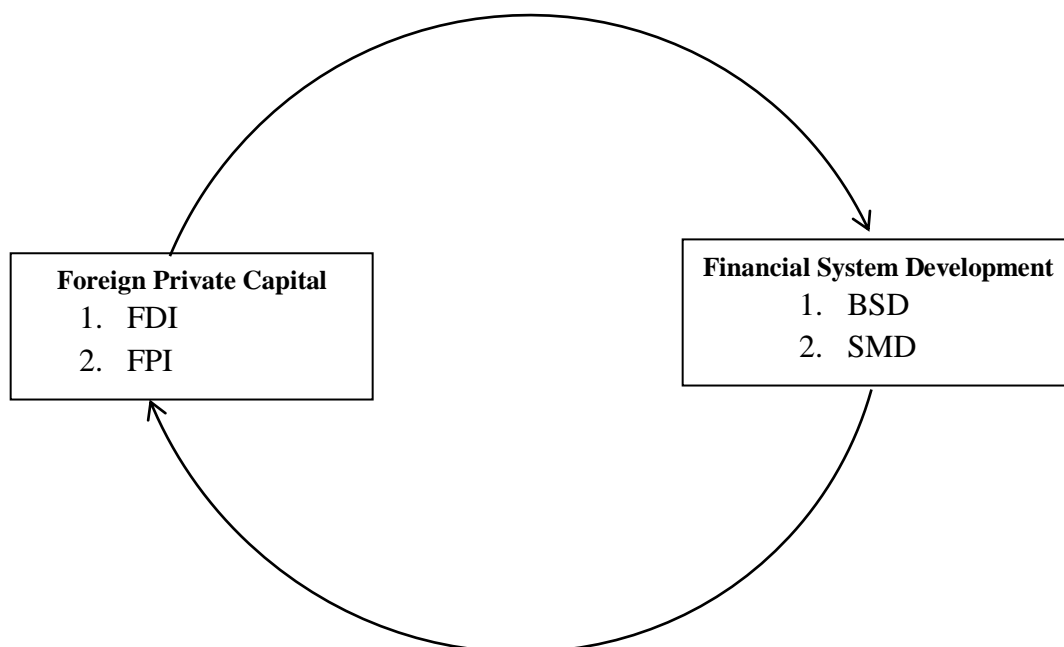
Financial system development promotes economic growth via capital accumulation and technological progress by increasing the savings rate, mobilizing and pooling savings, producing information about investment, facilitating and encouraging the inflows of external capital, and optimizing the allocation of capital. Financial system development also eliminates poverty and inequality by widening access to finance to the poor and vulnerable groups, facilitating risk management by reducing their vulnerability to shocks, and increasing investment and productivity to generate higher income. It helps to grow small and medium sized enterprises (SMEs) by providing them with ample finance, thus creating more jobs in emerging economies such as Nigeria (World Bank 2012 and UNCTAD, 2006 & 2007).

Onoh (2002) emphatically listed factors causing the sluggish pace and growth of the Nigeria financial system stating factors such as inadequate savings for investment; inadequacy of tradable market instruments; lack of market transparency; political and economic instabilities and lack of modern technological infrastructure.

### **2.1 Conceptual Framework**

The conceptual framework for this study relates to the flow of relationship between foreign direct investment (FDI) and foreign portfolio investment (FPI) and financial system development (FSD) as depicted in the figure below.

**Fig. 2.1: Conceptual Flows of External Private Capital and Financial System Development**



**Source: Designed by the Researcher (2017)**

## 2.2 Theoretical Framework

The most appropriate theory to be adopted in this study is the simplest growth model as propounded by Harrod (1949) and supported by Domar (1949) which later metamorphosed to Harrod-Domar growth model analysis. The theory states that for sustainable growth to occur in a typical economy especially in developing countries there should be an increase in the domestic savings of such countries. The Harrod-Domar growth model which comprised a goods market and a production sector has these characteristics:

- (i). The model reflected the lag structure in the economy because it has no effect on the steady state equilibrium solution.
- (ii). A constant desired capital - output ratio,  $v$  with an assumed constant long-run real interest rate but no technical change.
- (iii). Savings are a constant proportion of real income economy
- (iv). The labour force is growing at some exogenously determined constant exponential rate,  $u$

Goods – Market Equilibrium in the Harrod Model. The equilibrium in this model requires that

- (i). Desired savings are equal to desired investment at each moment in time, and
- (ii). The capital equipment in the economy is fully utilized.

Thus, the goods market is specified with these equations:

$$I = S \quad \text{equilibrium in the goods market ----- (1)}$$

$$S = sy \quad \text{desired savings function ----- (2)}$$

$$I = v (dy/dt) \quad \text{investment function ----- (3)}$$

In equation (3),  $v$  is the desired capital-output ratio given the existence of a fixed real rate of interest whereas  $dy/dt$  refers to the expected rate of change in income. Therefore, the steady-state growth actual equates expected rate of change in income in equilibrium.

Then, the economy's equilibrium growth path to maintain equilibrium in the goods market is determined through substitution for  $I$  and  $S$  in equation (1) after first- order differentiation of  $y$  and  $t$  thus:

$$v (dy/dt) = sy \text{ -----(4)}$$

Dividing equation (4) by  $y$  gives

$$\frac{1}{y} \frac{dy}{dt} = \frac{s}{v} \quad (5)$$

Now  $(1/y) (dy/dt)$  refers to the proportional rate of growth of equilibrium real income over time. And,  $s/v$  in equation (5) is the equilibrium growth rate of income in Harrod's model. Furthermore, through integration the time path of  $y$  in terms of  $s/v$  and  $t$  is

$$y = y_0 \exp [(s/v) t]$$

where  $y_0$  is the value of  $y$  at some arbitrary time 0.

The growth path of real income,  $y$ , which maintains equilibrium in the goods market requires the economy to grow at a steady exponential rate  $s/v$ . according to Harrod, this is the warranted growth rate,  $G_w$  which is the growth rate which allows desired savings to equal desired investment while maintaining full capacity output at every time period. The Natural Growth Rate in the Harrod Model

Assuming that the labour force grows at an exogenous rate,  $u$ , the long-run  $S_s$  equation is  $L = L_0 e^{ut}$

The maximum real output,  $y$ , that the economy can attain at any time  $t$  is  $y = (1/u) L_0 e^{ut}$

Therefore, without technical change, the maximum sustainable, growth rate on the  $S_s$  size of the economy is  $(1/y) (dy/dt) = \mu$

This is the natural growth rate without technical progress, and it is the rate of growth of the labour force,  $u$ .

### 3.0 MODEL SPECIFICATIONS

Model 1: The impact of foreign direct investments on stock market development in Nigeria

The functional relationship between FDI and SMD is given as:

$$SMD = f(FDI, INF, ER, Gov, TO, POL, GDP, REMIT) \quad \text{-----equation (1)}$$

$$SMD = \beta_0 + \beta_1 FDI + \beta_2 INF + \beta_3 ER + \beta_4 GOV + \beta_5 TO + \beta_6 POL + \beta_7 GDP + \beta_8 REMIT + \mu. \quad \text{----- equation (2)}$$

Model 2: The role of foreign direct investment on banking sector development in Nigerian

The following model of the relationship between FDI and BSD is therefore formulated thus:

BSD = f (FDI, INF, ER, GOV, TO, POL, GDP, REMIT) -----equation (3)

BSD= β<sub>0</sub>+ β<sub>1</sub>FDI+ β<sub>2</sub>INF+ β<sub>3</sub>ER+ β<sub>4</sub>GOV+ β<sub>5</sub>TO+ β<sub>6</sub>POL+ β<sub>7</sub>GDP+ β<sub>8</sub>REMIT+ μ.....equation (4)

Model 3: The impact of foreign portfolio investment on stock market development in Nigeria.

The functional relationship between FPI and SMD is given as:

SMD = f (FPI, INF, ER, GOV, TO, POL, GDP, REMIT) -----...equation (5)

BSD= β<sub>0</sub>+ β<sub>1</sub>FDI+ β<sub>2</sub>INF+ β<sub>3</sub>ER+ β<sub>4</sub>GOV+ β<sub>5</sub>TO+ β<sub>6</sub>POL+ β<sub>7</sub>GDP+ β<sub>8</sub>REMIT+ μ-equation (6)

Model 4: The impact of foreign direct investments and foreign portfolio investments on financial system development in Nigeria.

The model of the functional relationship between FDI and FPI and FSD is as follows:

FSD = f (FDI, FPI, INF, ER, GOV, TO, POL, GDP, REMIT) -----equation (7)

FSD = β<sub>0</sub>+ β<sub>1</sub>FDI+ β<sub>2</sub>FPI+ β<sub>3</sub>INF+ β<sub>4</sub>ER+ β<sub>5</sub>GOV+ β<sub>6</sub>TO+ β<sub>7</sub>POL+ β<sub>8</sub>GDP+ β<sub>9</sub>REMIT+ μ....equation (8)

Where:

FSD = Financial system development,

FDI = Foreign direct investment,

FPI = Foreign portfolio investment,

BSD = Banking sector development,

SMD = Stock market development,

INF = Inflation rate,

ER = Exchange rate (Dollar to Naira),

REMIT = Workers' remittances,

GOV = Government expenditure, a proxy for fiscal policy,

TO = Trade openness, which is the ratio of trade to GDP,

POL \* = Political instability, measured as the number of coup in Nigeria. Dummig variable

(\*) indicates the number of times the country has experienced political instability

GDP = Gross Domestic Product,

$\beta$  = are the parameters estimated,

$\mu$  = is the stochastic variable or error term.

The data employed for the study are secondary in nature, retrieved from Central Bank of Nigeria (CBN) statistical bulletin 2014 and the World Bank covering the period from 1981 to 2014. The needed data on workers' remittances, foreign direct investment and foreign portfolio investment were collected from the World Bank while data on other explanatory variables were sourced from other sources. The estimation techniques employed in the study are descriptive statistics, unit root test, Johansen Cointegration test, Ordinary Least Square (OLS), multiple regression, multicollinearity Test, visual plot and Heteroskedasticity test

#### 4.0 RESULT AND INTERPRETATION

**Table 1: Descriptive statistics**

	BSD	EXR	FDI	FPI	FSD	GDP	GOV	INF	OPEN	POL	REMIT	SMD
Mean	13.69	79.36	18.71	12.19	8.611	14.77	11.63	19.24	9.41	0.50	18.42	10.54
Median	13.91	22.26	19.22	12.38	8.99	15.23	12.39	19.92	9.68	0.50	19.35	10.45
Maximum	17.45	199.76	22.78	15.69	12.99	17.98	14.44	31.20	13.93	1.00	36.09	26.90
Minimum	10.26	0.64	13.68	8.57	3.84	10.81	8.32	9.50	5.06	0.00	6.00	2.00
Std. Dev.	2.46	75.54	2.27	2.31	2.76	2.25	2.04	4.87	2.49	0.51	7.15	5.30
Skewness	0.04	0.27	0.68	0.04	-0.09	-0.25	-0.34	-0.20	-0.09	0.00	0.32	0.69
Kurtosis	1.50	1.34	2.52	1.58	1.87	1.68	1.60	3.13	1.85	1.00	2.56	3.86
Jarque-Bera	3.40	4.59	3.09	3.04	1.97	3.00	3.61	0.26	2.04	6.00	0.89	3.95
Probability	0.18	0.10	0.21	0.22	0.37	0.22	0.17	0.88	0.37	0.04	0.64	0.14
									338.7			379.5
Sum	492.83	2857.00	673.69	438.92	310.01	531.66	418.63	692.63	6	18.00	663.12	6
Sum Sq. Dev.	211.25	199690.9	181.42	187.29	266.92	176.37	145.73	831.22	217.7	7	1791.19	983.6
Observations	36	36	36	36	36	36	36	36	36	36	36	36

Source: Computed using E-view Statistical Package version 8.0



The mean, of the banking sector development, exchange rate, financial development investment and foreign private investment were found to be 13.69, 79.36, 18.71 and 12.19 respectively. The table further showed the mean and standard deviation of other variables used in the study. The Jarque-Bera, as used here is a test of whether the time series is normally distributed if the series are normally distributed. The Jarque-Bera statistics and the reported probability of the political stability ( $p=0.04<0.05$ ), is less than 5% demonstrate that the time series are normally distributed. However, the Jarque-Bera statistics and probability of financial system development, foreign direct investment, foreign portfolio investment, banking sector development, stock market development and other variables were not normally distributed ( $p>0.05$ )

**Table 2: Multicollinearity Test**

	1	2	3	4	5	6	7	8	9	10	11	12
1 FDI	1	.633	.730	.724	.374	.638	.539	.784	.457	.782	-.054	.739
2 EXR		1	.953	.957	.247	.277	.548	.889	.783	.916	-.078	.875
3 FPI			1	.997	.358	.393	.670	.964	.823	.987	-.095	.905
4 BSD				1	.350	.375	.682	.970	.828	.985	-.065	.892
5 SMD					1	.511	.462	.445	.383	.432	-.119	.343
6 INF						1	.495	.491	.170	.487	-.104	.413
7 REMIT							1	.782	.670	.727	-.007	.596
8 GOV								1	.793	.983	-.066	.855
9 OPEN									1	.810	-.074	.728
10 GDP										1	-.112	.894
11 POL											1	-.002
12 FSD												1

*Source: Computed using E-view Statistical Package version 8.0*

Table 2 revealed that positive correlations exist among all the variables used in the study; some with high correlation and others with low correlation as shown in table 2. For example there was a high positive correlation between BSD and GOV ( $r=0.97$ ), FPI and GOV ( $r=0.964$ ). However, the correlation between POL and FSD was very low ( $r=0.112$ ).

**Table 3: Unit Root Test (Variable in First difference)**

Variable	Level	1 <sup>st</sup> Difference	Decision
BSD	7.724606	-2.183278	I(0)
EXR	1.504436	-5.289875	I(1)
FDI	0.910224	-7.795373	I(1)
FSD	1.375540	-6.159026	I(1)
FPI	3.209690	-2.000975	I(1)
GDP	6.450874	-1.270561	I(0)
GOV	2.698333	-2.625634	I(1)
INF	0.209389	-4.967413	I(1)
OPEN	0.230058	-9.452771	I(1)
POL	-1.589850	-6.235543	I(1)
REMIT	-0.337565	-6.601867	I(1)
SMD	-0.552164	-10.76649	I(1)

Source: Computed using E-view Statistical Package version 8.0

The unit root results which indicated the order of integration of each of the variables were presented in Table 3. The test revealed that the variables: EXR, FDI, FSD, FPI, GOV, INF, OPEN, POL, REMIT and SMD were all stationary at first difference; the variables are integrated of order I (1) thus integrated of order zero I(0) as the variables do not require further differencing (Gujarati, 2003). While BSD and GDP are stationary at levels, which means integrated of order I (0). This implies that the null hypothesis of non-stationarity for all the variables is rejected. Given the unit root properties of the variables, we proceeded to establish whether or not there was a long run cointegrating relationship among the variables in the equation by using the Johansen full information maximum likelihood method.

**Model One: Impact of Foreign Direct Investment on Stock Market Development in Nigeria**

**Table 4: Johansen maximum likelihood Co-integration test**

Date: 03/27/17 Time: 04:54  
 Sample (adjusted): 1982 2015  
 Included observations: 34 after adjustments  
 Trend assumption: Linear deterministic trend  
 Series: SMD FDI INF EXR GOV OPEN POL GDP REMIT  
 Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.938382	360.9857	197.3709	0.0000
At most 1 *	0.864030	266.2346	159.5297	0.0000
At most 2 *	0.848743	198.3937	125.6154	0.0000
At most 3 *	0.796624	134.1753	95.75366	0.0000
At most 4 *	0.669844	80.02358	69.81889	0.0061
At most 5	0.467930	42.34507	47.85613	0.1493
At most 6	0.287549	20.89175	29.79707	0.3644
At most 7	0.225112	9.364251	15.49471	0.3328
At most 8	0.020176	0.692985	3.841466	0.4052

Trace test indicates 5 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.938382	94.75107	58.43354	0.0000
At most 1 *	0.864030	67.84098	52.36261	0.0007
At most 2 *	0.848743	64.21835	46.23142	0.0003
At most 3 *	0.796624	54.15174	40.07757	0.0007
At most 4 *	0.669844	37.67851	33.87687	0.0167
At most 5	0.467930	21.45332	27.58434	0.2498
At most 6	0.287549	11.52750	21.13162	0.5946
At most 7	0.225112	8.671266	14.26460	0.3145
At most 8	0.020176	0.692985	3.841466	0.4052

Max-eigenvalue test indicates 5 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: Computed using E-view Statistical Package version 8.0**

The conclusion drawn from this result was that there existed a unit long-run relationship between SMD, FDI, INF, EXR, GOV, OPEN, POL, GDP and REMIT. Since there was one co-integrating

vector, an econometric interpretation of the long-run Stock Market Development (SMD) can be obtained by normalizing the estimates of unrestricted co-integrating vector on the variables. The PT-matrix of the beta coefficient from the Johansen co-integrating analysis and the preferred co-integrating (CI) equation were presented in Table 4. Using Max-Eigen statistics, only one co-integrating relations was chosen among the two, based on statistical significance and conformity of the coefficients with economic theory. As shown by the chosen CI equation, which normalized the coefficient of SMD, all the explanatory variables were significant in influencing changes in SMD.

**Regression Result**

Dependent Variable: SMD  
 Method: Ordinary Least Squares (OLS)  
 Sample: 1981-2014  
 Included observations: 34

**Table 4.1: The Impact of Foreign Direct Investment on Stock Market Development**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1398.378	3108.680	-0.449830	0.6567
FDI	7.85E-07	3.72E-07	2.106873	0.0453
INF	22.04203	65.74825	0.335249	0.7402
ER	-16.90476	18.89461	-0.894687	0.3795
GOV	0.002100	0.000444	4.724689	0.0001
TO	6.348809	41.00348	0.154836	0.8782
POL	1014.447	1261.459	0.804186	0.4289
GDP	-0.031664	0.049027	-0.645843	0.5243
REMIT	-8.795382	74.61957	-0.117870	0.9071
R-squared	0.910572	Mean dependent var		3255.959
Adjusted R-squared	0.881955	S.D. dependent var		5220.968
S.E. of regression	1793.802	Akaike info criterion		18.04399
Sum squared resid	80443099	Schwarz criterion		18.44803
Log likelihood	-297.7478	F-statistic		31.81937
Durbin-Watson stat	1.786949	Prob(F-statistic)		0.000000

**Source: Computation using E-view Statistical Package Version 8.0**

In table 4.1 above, foreign direct investments show a positive coefficient of 7.85. One percent increase on foreign direct investment will on the average leads to about 0.0785 in SMD. There exists a significant positive relationship between inflation rate and SMD. The coefficient of inflation rate shows 22.04. One percent increase in inflation will lead on the average, to about

22.04 percent increase in SMD. This, however, violates a priori expectation as inflation rate is assumed to take a negative value. The exchange rate has a negative coefficient of 16.905. one percent increase in exchange rate will lead to a fall in the dependent variable. Government expenditure shows a positive relationship with a coefficient of 0.0021. One percent increase in government expenditure will lead to 0.0021 increases in the dependent variable. Trade openness and political instability are statistically significant with a coefficient of 6.2488 and 1014.44 respectively. The gross domestic product (GDP) shows a negative relationship with SMD of 0.031664. one percent fall of the gross domestic product will lead to 0.031664 percent decrease on the dependent variable.

In the result, the coefficient of determination is high. It shows that about 91percent of the total variations in SMD are explained by all the independent variables in the model. The adjusted R<sup>2</sup> also indicates that about 88 percent of the total variations in SMD are explained by the model. The F-statistic is significant at 5 percent critical level. It indicates that the joint variations of the model are significant. The Durbin-Watson (D-W) value of 1.78, however, indicates a presence of positive autocorrelation.

**Model Two: Impact of Foreign Direct Investment on Banking Sector Development in Nigeria**

**Table 5: Johansen maximum likelihood Co-integration test**

Date: 03/27/17 Time: 07:38  
 Sample (adjusted): 1982 2015  
 Included observations: 34 after adjustments  
 Trend assumption: Linear deterministic trend  
 Series: BSD FDI INF EXR GOV OPEN POL GDP REMIT  
 Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.946442	350.4201	197.3709	0.0000
At most 1 *	0.918822	250.9026	159.5297	0.0000
At most 2 *	0.746773	165.5249	125.6154	0.0000
At most 3 *	0.730613	118.8269	95.75366	0.0005
At most 4 *	0.593249	74.23229	69.81889	0.0213
At most 5	0.551106	43.64745	47.85613	0.1176
At most 6	0.251219	16.41449	29.79707	0.6828
At most 7	0.172416	6.577974	15.49471	0.6272
At most 8	0.004216	0.143639	3.841466	0.7047

Trace test indicates 5 cointegrating eqn(s) at the 0.05 level  
 \* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.946442	99.51741	58.43354	0.0000
At most 1 *	0.918822	85.37775	52.36261	0.0000
At most 2 *	0.746773	46.69798	46.23142	0.0445
At most 3 *	0.730613	44.59462	40.07757	0.0145
At most 4	0.593249	30.58484	33.87687	0.1176
At most 5	0.551106	27.23296	27.58434	0.0554
At most 6	0.251219	9.836517	21.13162	0.7598
At most 7	0.172416	6.434335	14.26460	0.5581
At most 8	0.004216	0.143639	3.841466	0.7047

Max-eigenvalue test indicates 4 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: Computed using E-view Statistical Package version 8.0**

The conclusion drawn from this result is that there exists a unit long-run relationship between BSD, FDI, INF, EXR, GOV, OPEN, POL, GDP and REMIT. Since there is one co-integrating vector, an econometric interpretation of the Banking Sector Development (BSD) can be obtained by normalizing the estimates of unrestricted co-integrating vector on the variable. The PT-matrix of the beta coefficient from the Johansen co-integrating analysis and the preferred co-integrating (CI) equation are presented in Table 5. Using Max-Eigen statistics, five co-integrating relations was chosen among the model, based on statistical significance and conformity of the coefficients with economic theory. As shown by the chosen CI equation, which normalized the coefficient of SMD, all the explanatory variables were significant in influencing changes in SMD. The results showed that there existed a long-run relationship among the variables.

**Regression Result**

Dependent Variable: BSD

Method: Ordinary Least Squares (OLS)

Sample: 1981-2014

Included observations: 34

**Table 5.1: The Roles of Foreign Direct Investment on Banking Sector Development**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	34.45335	42.76890	0.805570	0.4281
FDI	1.02E-08	5.12E-09	1.981894	0.0586
INF	0.429678	0.904558	0.475015	0.6389
ER	0.448510	0.259950	1.725371	0.0968
GOV	-1.26E-05	6.11E-06	-2.062877	0.0497
TO	-0.847594	0.564122	-1.502502	0.1455
POL	27.75545	17.35503	1.599274	0.1223
GDP	-0.000789	0.000675	-1.169417	0.2533
REMIT	0.354347	1.026608	0.345162	0.7329
R-squared	0.622170	Mean dependent var		64.45294
Adjusted R-squared	0.501264	S.D. dependent var		34.94549
S.E. of regression	24.67894	Akaike info criterion		9.471704
Sum squared resid	15226.25	Schwarz criterion		9.875741
Log likelihood	-152.0190	F-statistic		5.145912
Durbin-Watson stat	2.067350	Prob(F-statistic)		0.000727

**Source: Computed using E-view Statistical Package version 8.0**

In this table, foreign direct investments show a positive coefficient of 1.02. This has a significant positive impact on BSD. One percent increase on foreign direct investments to BSD will on the average leads to about 1.02 percent increase in dependent variable. There exists a significant positive relationship between inflation rate and BSD. One percent increase on inflation rate to BSD will lead on the average, to about 0.42 percent increase in BSD. The exchange rate shows has a significant positive impact on the dependent variable of 0.4485. One percent increase on exchange rate will leads to about 0.4485 percent increase in the dependent variable.

From the results in the table above, there exists a negative relationship between government expenditure and the dependent variable. One percent increase in ratio of government expenditure to BSD will lead to a corresponding fall on the average of about a percent decrease in the

dependent variable of 1.26. In addition, the trade openness shows a negative impact on BSD of 0.847 i.e. one percent increase in TO will invariably affect BSD with the same coefficient. The political instability and the gross domestic product show a positive coefficient of 27.755 and 0.3543 respectively. The gross domestic product shows a negative coefficient of 0.000789.

In the result, the coefficient of determination is high. It shows that about 62percent of the total variations in BSD are explained by all the independent variables in the model. The adjusted R<sup>2</sup> also indicates that about 50 percent of the total variations in BSD are explained by the model. The F-statistic is significant at 5 percent critical level. It indicates that the joint variations of the model are significant. However, the Durbin-Watson value of 2.06 indicates a presence of positive autocorrelation.

**Model Three: Impact of Foreign Private Investment on Banking Sector Development in Nigeria**

**Table 6: Johansen maximum likelihood Co-integration test**

Sample (adjusted): 1982 2015  
 Included observations: 34 after adjustments  
 Trend assumption: Linear deterministic trend  
 Series: BSD FPI INF EXR OPEN POL GDP REMIT  
 Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.919812	265.4670	159.5297	0.0000
At most 1 *	0.857849	179.6721	125.6154	0.0000
At most 2 *	0.678316	113.3427	95.75366	0.0018
At most 3 *	0.651608	74.78036	69.81889	0.0190
At most 4	0.397588	38.92982	47.85613	0.2631
At most 5	0.293207	21.69814	29.79707	0.3156
At most 6	0.183879	9.899556	15.49471	0.2885
At most 7	0.084212	2.990985	3.841466	0.0837

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.919812	85.79493	52.36261	0.0000
At most 1 *	0.857849	66.32940	46.23142	0.0001



At most 2	0.678316	38.56231	40.07757	0.0733
At most 3 *	0.651608	35.85053	33.87687	0.0287
At most 4	0.397588	17.23168	27.58434	0.5601
At most 5	0.293207	11.79859	21.13162	0.5677
At most 6	0.183879	6.908571	14.26460	0.5000
At most 7	0.084212	2.990985	3.841466	0.0837

Max-eigenvalue 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: Computed using E-view Statistical Package version 8.0**

The co-integration test is to check if the linear combination of the variables is stationary or not. It requires that the variables of interest have the same order of integration. When the variables are integrated of the same order, then a linear relationship among them can be expected. The variables are said to be integrated if a long run equilibrium relationship exists among them. Table 6 which revealed that the trace statistics is greater than 5% critical value at none, almost 1 and almost 3 hypothesized. The results showed that there existed a long-run relationship among the variables.

**Regression Result**

Dependent Variable: SMD

Method: Ordinary Least Squares (OLS)

Sample: 1981-2014

Included observations: 34

**Table 6.1: The Impact of foreign portfolio investment on stock market development**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	14.16882	63.50747	0.223105	0.8253
FPI	-0.775361	1.877805	-0.412908	0.6832
INF	0.453040	1.065308	0.425266	0.6743
ER	0.441510	0.278789	1.583669	0.1258
GOV	-4.11E-06	5.92E-06	-0.694716	0.4936
TO	-0.514879	0.608542	-0.846087	0.4055
POL	32.58701	18.41865	1.769240	0.0891
GDP	-0.000187	0.000688	-0.271390	0.7883
REMIT	1.643478	0.864635	1.900777	0.0689

R-squared	0.565768	Mean dependent var	64.45294
Adjusted R-squared	0.426814	S.D. dependent var	34.94549
S.E. of regression	26.45691	Akaike info criterion	9.610839
Sum squared resid	17499.20	Schwarz criterion	10.01488
Log likelihood	-154.3843	F-statistic	4.071613
Durbin-Watson stat	1.655294	Prob(F-statistic)	0.003226

In table 6.1, FPI, GOV, TO, and GDP (-0.7753, -4.11E, -0.5148 & -0.0001) shows a negative co-efficient, implying an insignificant negative impact on SMD. But, there exists a positive impact of INF, ER and REMIT on SMD. In the result, the co-efficient of determination ( $R^2$  of 0.5657) is averagely low. This indicates that 56% of the total variation in SMD can be explained by all the independent variables in the model. The adj.  $R^2$  also shows that 42% of the total variation SMD is explained by the model. However, the D-W statistics shows 1.6552, indicating the presence of positive autocorrelation.

**Model Four: Impact of Foreign Direct Investment and Foreign Private Investment on Banking Sector Development in Nigeria**

**Table 7: Johansen maximum likelihood Co-integration**

Date: 03/28/17 Time: 02:55  
 Sample (adjusted): 1982 2015  
 Included observations: 34 after adjustments  
 Trend assumption: Linear deterministic trend  
 Series: FSD FDI FPI INF EXR GOV OPEN POL GDP REMIT  
 Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.982932	503.7183	239.2354	0.0000
At most 1 *	0.931395	365.3205	197.3709	0.0000
At most 2 *	0.906641	274.2214	159.5297	0.0000
At most 3 *	0.864383	193.5970	125.6154	0.0000
At most 4 *	0.720971	125.6676	95.75366	0.0001
At most 5 *	0.622075	82.26868	69.81889	0.0037
At most 6 *	0.485264	49.18469	47.85613	0.0373
At most 7	0.369574	26.60526	29.79707	0.1117

At most 8	0.253297	10.91903	15.49471	0.2165
At most 9	0.028642	0.988059	3.841466	0.3202

Trace test indicates 7 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.982932	138.3977	64.50472	0.0000
At most 1 *	0.931395	91.09913	58.43354	0.0000
At most 2 *	0.906641	80.62444	52.36261	0.0000
At most 3 *	0.864383	67.92935	46.23142	0.0001
At most 4 *	0.720971	43.39895	40.07757	0.0204
At most 5	0.622075	33.08399	33.87687	0.0619
At most 6	0.485264	22.57943	27.58434	0.1922
At most 7	0.369574	15.68623	21.13162	0.2437
At most 8	0.253297	9.930974	14.26460	0.2165
At most 9	0.028642	0.988059	3.841466	0.3202

Max-eigenvalue test indicates 5 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: Computed using E-view Statistical Package version 8.0**

The conclusion drawn from this result is that there exists a unit long-run relationship between FSD FDI FPI INF EXR GOV OPEN POL GDP and REMIT. Since there is one co-integrating vector, an econometric interpretation of the Financial System Development (FSD) can be obtained by normalizing the estimates of unrestricted co-integrating vector on the variable. The PT-matrix of the beta coefficient from the Johansen co-integrating analysis and the preferred co-integrating (CI) equation are presented in Table 7. Using Max-Eigen statistics, five co-integrating relations was chosen among the model, base on statistical significance and conformity of the coefficients with economic theory. As shown by the chosen CI equation, which normalizes the coefficient of FSD, all the explanatory variables are significant in influencing changes in FSD. The results show that there exists a long-run relationship among the variables

**Regression Result**

Dependent Variable: FSD  
 Method: Ordinary Least Squares (OLS)  
 Sample: 1981-2014  
 Included observations: 34

**Table 7.1: The Effects of Foreign Direct Investment on Financial Development**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	22.27151	4.605597	4.835749	0.0001
FDI	-9.72E-10	5.52E-10	-1.762557	0.0902
INF	-0.222387	0.097408	-2.283045	0.0312
ER	0.004208	0.027993	0.150319	0.8817
GOV	2.20E-06	6.58E-07	3.337670	0.0026
TO	-0.088458	0.060748	-1.456159	0.1578
POL	-0.106022	1.868888	-0.056730	0.9552
GDP	-0.000107	7.26E-05	-1.467714	0.1547
REMIT	1.153592	0.110551	10.43493	0.0000
R-squared	0.882404	Mean dependent var	40.80147	
Adjusted R-squared	0.844773	S.D. dependent var	6.745284	
S.E. of regression	2.657567	Akaike info criterion	5.014626	
Sum squared resid	176.5666	Schwarz criterion	5.418663	
Log likelihood	-76.24865	F-statistic	23.44894	
Durbin-Watson stat	1.936696	Prob(F-statistic)	0.000000	

The results presented Table 5 show that FPI, INF, GOV, OPEN, POL, GDP and REMIT is statistically significant at 5% level influencing financial system development during the period under consideration. This is evident, as the standard error of the variables is smaller than half of the numerical value of the coefficient. In addition, the t-statistics is significant at 5%. (p=0.00). This implies that the explanatory variables FPI, INF, GOV, OPEN, POL, GDP and REMI significantly contributed to the financial system development during the period under

consideration. However, government expenditure contributed is inversely to the financial development.

In addition, the high value of R-square and the adjusted R indicates the explanatory power of the independent variables. This means the variables included in the model accounted for about 83.1% variation in the dependent variables. This was considered high enough to determine the statistical significance of the coefficient of determination. The F-statistics also indicates that the model is well fit for the estimation because F statistics value of 20.06 is significant at 5% (p=0.00). Also, the Durbin Watson statistics value of 2.22 indicates no autocorrelation and thus the model is conclusive.

**Table 8: White’s Heteroskedasticity Test: Breusch-Pagan-Godfrey Results**

F-statistic	3.070188	Prob. F(8,27)	0.0054
Obs*R-squared	15.68672	Prob. Chi-Square(8)	0.0003
Scaled explained SS	12.53826	Prob. Chi-Square(8)	0.1288

Test Equation:  
 Dependent Variable: RESID^2  
 Method: Least Squares  
 Date: 03/28/17 Time: 03:08  
 Sample: 1980 2015  
 Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-216.6555	80.13791	-2.703533	0.0117
FDI	2.924230	3.947135	0.740849	0.4652
INF	-2.607007	1.375198	-1.895732	0.0687
EXR	-0.517173	0.184284	-2.806391	0.0092
GOV	-2.873330	15.08966	-0.190417	0.8504
OPEN	-2.941891	3.748873	-0.784740	0.4394
POL	-8.909595	8.955134	-0.994915	0.3286
GDP	21.58940	14.76702	1.462001	0.1553
REMIT	0.839179	1.324815	0.633431	0.5318

R-squared	0.80187	Mean dependent var	15.61218
Adjusted R-squared	0.80011	S.D. dependent var	28.57614
S.E. of regression	25.61451	Akaike info criterion	9.536513
Sum squared resid	17714.79	Schwarz criterion	9.932393
Log likelihood	-162.6572	Hannan-Quinn criter.	9.674686
F-statistic	3.070188	Durbin-Watson stat	2.146572
Prob(F-statistic)	0.005402		

**Source: Computed using E-view Statistical Package version 8.0**

This is a test to discover if the variance of each of the explanatory variables are not the same in the residual from the least square regression (White,1980). OLS assumes a constant variance of each of the explanatory variables (Homoscedasticity). White's heteroscedasticity test is used in this study. The Obs\* R-square statistics is White's test statistics, computed as the number of observation time the centered  $R^2$  from test regression.

#### **4.0 DISCUSSION OF FINDINGS**

From the results obtained in this study, it is obvious that the impact of foreign private capital has not impacted significantly on financial system development especially as it concern the stock market but a better impact of FPI in the form of foreign direct investment is felt on the banking sector. The insignificant impact of foreign private capital on the stock market might not be unconnected to the infractions that are a common occurrence in stock market operations and the contagion experienced by virtue of the global financial crisis which occurred in year 2008 up till 2009. Considering the expected role the financial system is to play in developing the real sector of any economy, it thus become imperative for the government to take proactive and corrective steps to address anomalies within the macro-economy. The fairly significant impact of FPI on the banking sector can be attributed to the fact that the banking sector is better regulated as the government tends to focus more attention to happenings in that sector. It could also be linked to the nature of these investment which is direct and not just portfolio investment.

#### **5.0 CONCLUSION AND RECOMMENDATIONS**

The Nigeria financial system is presently not as developed as it should, and this accounts for why the country has not been able to attract foreign investors as it should to cater for the large market within the ECOWAS sub-region hence there is the need for better regulation of the principal players within the financial system and the crafting as well as implementation of policies that can bring in more players into the financial services sector. In addition, the need to get competent human capital to drive all segments of the financial system is now obvious against the backdrop of the global competition for capital flow. The deployment of current technology that prevents leakages and fraud has also become inevitable for Nigeria not to lose out in the global quest for capital to catalyze economic growth and development. Based on the above observations and conclusions, it is recommended that:

- (i). The Federal Government of Nigeria should provide the enabling business-environment for foreign investment through friendly economic policies and programmes such as tax incentives in order to attract more foreign private capital into the country and ensuring that contractual laws are enforceable without technical inhibitions.

(ii). The banking industry needs more stringent consolidating and globally acceptable reforms, to make Nigeria the financial hub in Africa.

(iii). Moreover, through different media, such as the National Orientation Agency, the image of Nigeria portrayed to people abroad should be improved upon in order to attract more foreign investors into the country. Government officials and citizens alike must desist from de-marketing Nigeria by their utterances and actions.

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