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Private Capital Inflows and Stock Market Development: An Empirical Insight

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Abstract

Over the past years, countries have used private capital inflows to enhance and deepen the growth of their stock market. Using time-series data between 1981 to 2017, the study deployed the dynamic ordinary least square (DOLS) and Granger causality techniques to examine the effect of private capital inflows on stock market development and also the direction of causality. The study outcome revealed that FDI positively and significantly affects the development of stock market in the country. Besides, the study outcome also showed that portfolio investment has a positive link with the country stock market development. In addition, the study also showed that FDI Granger cause stock market development. Drawing from the outcome of the study, it is recommended that the government should continuously implement and improve policies that attract FDI into the country to enhance and deepen the nation's stock market. Besides, the monetary policy needs to continuously improve policy on portfolio investment to tackle its inherent nature, which is volatile.

Keywords: Private Capital Inflows, Stock Market Development, Dynamic Ordinary Least Square, Nigeria

Jel Classification Codes: G12 C3 O4

Introduction

In the past decade, the flow of foreign capital to developing and emerging economies has increased significantly. Developmental economists believe that these flows will raise the living standards, close the gaps that exist between savings and investment, import and exports, deepen the financial market, thus allowing these economies to attained sustainable growth.

According to Raza (2014), private capital inflows enhanced the growth and development of emerging economies stock market. Besides, several studies in the literature have revealed that the inflow of private capital has helped deepen the stock market (Kim & Yang, 2011; Tillmann, 2012; Ifeakachukwu, 2015, Shanab, 2017; Akinmulegun, 2018; Van Bon, 2020). Also, a well-developed stock market serves as an enticement to investors abroad, which thus facilitates the inflow of private capital in an economy (Ifeakachukwu, 2015; Osoro, Simiyu and Omagwa, 2020). More so, several studies in the literature have shown that it is private capital inflows that promote stock market development of an economy since it aids the host country to adopt policies that are macroeconomic friendly which are capable of driving growth in the market

(Kholdy & Sohrabian, 2005; Otchere et al., 2011; Van Bon, 2020).

Stock market performance indicators such as market capitalisation and all-share price index typically serve as factors that attract foreign capital into the nation's stock market (Philips, 2019). However, the weak regulatory infrastructures, the paucity of specialised financial instruments, the high cost of transactions, poor savings culture among the populace, inadequate market infrastructures are among the factors that have mitigated the flow of private capital into the country (Ndikumana, 2013).

The massive inflow of foreign capital has resulted in financial crises in most developing and emerging economies (Obadan, 2013). Studies have shown that if portfolio investment is not adequately managed, it might result in financial risks such as boom-bust cycles (Obadan, 2013). Also, a massive influx of foreign capital might fuel asset bubbles and credit booms. However, the sudden reversal of capital flows might lead to severe crises (economic and financial).

Besides, the inflow of external capital to the stock market might raise the demand for the stock which might result in a hike in stock price. Thus, this raises a question whether private capital inflows drive growth in the stock market? In answering the question, the study employed dynamic ordinary least square (OLS) and Granger causality tests to examine the effect of private capital inflows on the development of stock market and also the direction of causality.

The remaining section of the study is arranged as follows: Part 2 illustrates the theories and review of empirical literature used in the study while parts 3 summaries the data and methodology deployed. Part 4 discusses the findings of the study while, part 5 shows the conclusion of the paper.

Theory and Review of Literature

Several theories in the literature have accounted for the reasons and significance of private capital inflows into developing economies. The MacDougall (1958) hypothesis asserts that capital moves easily from a rich country to a scarce capital economy until the marginal productivity of capital in both economies is equal. The industrial organization theory propounded by Hymer (1960) accounts for why MNC still invest in developing economies despite the advantages possessed by local firms in terms of national culture, legal structure, language, and economic environment. The theory asserts that MNC possesses knowledge such as quality management, organizational set-up, special marketing skills that domestic firms do not have. Hence, since the market is imperfect and domestic firms do not have the technology to compete favourably with MNC, MNC still makes a profit. The two-gap model advanced by Chenery and Strout (1966) argued that savings and foreign exchange gap do exist in an emerging economies and foreign capital inflows is needed to close the gap for growth to be attained.

Numerous research in the literature have also examined the link between capital inflows and stock market growth. Kim and Yang's (2011) findings showed that capital inflows result in asset price appreciation in

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Asian emerging economies. Raza (2012), using an OLS method, indicated that FDI exerts a positive influence on the Pakistan stock market for the period 1998-2009. Tillmann (2012), using a panel VAR model, concluded that capital inflows shock pushes up stock prices in Asian emerging economies. Employing an ARDL technique, Raza and Jawaid (2014) found that for the period 2000 to 2010 in 18 Asian economies, FDI has an adverse effect on stock market capitalization in the short-run, whereas, it is positive in the long-run.

Ifeakachukwu (2015), using the error correction model, showed that for the period 1986 to 2013, value traded ratio affect foreign portfolio investment in the long-run. while the short-run estimates revealed that stock market development influenced FDI and portfolio investment. Idenyi et al. (2016), employing a VECM and pairwise Granger causality test, revealed that for the period 1984 to 2015, FDI has an adverse effect on the growth of stock market both in the short and long-run while there was absence of causality between the variables. Onyeisi, Odo, and Anoke (2016) concluded that in the long-run, there is a significant effect of portfolio investment on stock market growth in Nigeria for the period 1986-2014. The authors also found an absence of causality between the variables.

Shanab (2017), employing an ECM, concluded that portfolio investment affects stock market development in the Amman Stock Exchange between 2005 to 2016. Bayar (2017) research findings revealed that a bi-directional causality flow between FDI and stock market development for the period 1992-2015 in Turkey. Akinmulegun (2018), using VECM and Granger causality test, showed that for the period 1985 to 2016, market capitalization affects portfolio investment adversely, while the all-share index positively affects portfolio investment. Besides, the Granger causality test revealed an absence of causality. Abubakar and Dalandi (2018), between the period 1981 to 2016, concluded that the link between FDI and stock market development is insignificant.

Nwosa (2019), using a pair-wise Granger causality technique, an absence of causality between FDI and stock market development was found, whereas, a uni-directional causality exists between stock market development and portfolio investment for the period 1986 to 2016 in Nigeria. More so, research findings by Van Bon (2020) indicates that FDI exerts positive influence on stock market developing in thirty-six emerging economies. Osoro, Simiyu and Omagwa (2020) using an ARDL method concluded that in Kenya, foreign capital inflows exert a positive effect on stock market capitalization in the short-run, while in the long-run FDI and portfolio investment had an adverse effect on stock market capitalization although it was insignificant in the case of portfolio investment. Employing an ARDL technique, Sajid et al., (2021) concluded that in Pakistan, FDI and portfolio investment does not affect stock market development in the long-run, while in the short-run, FDI affect stock market development negatively on the other hand, portfolio investment positively affects stock market development.

The review of the literature showed mixed findings. While a plethora of studies examined how FDI affects the growth of stock market, few studies examined how

portfolio investment drives the development of stock market. Again, the majority of the reviews focus on the effect of capital inflows, especially FDI on stock market development without investigating whether it is private capital inflows that drives growth in the stock market or stock market growth drives private capital inflows into the country. Against this backdrop, using dynamic ordinary least square (DOLS) and Granger causality test techniques, this study examined the effect of private capital inflows on the development stock market and also the direction of causality.

Data and Methodology

Data

The study used annual time series data from 1981 to 2017 sourced from Central Bank of Nigeria (CBN) Statistical bulletin. The following data was used in the study stock market development, real exchange rate, FDI, portfolio investment, economic growth, financial deepening and inflation. The stock market development is the dependent variable for the study which was proxy as total market capitalisation (MC). Foreign direct investment (FDI) and portfolio investment (PI)was used as independent variables. In line with existing literature, the control variables used in the study are inflation (INF), real exchange rate (REXR), economic growth which was proxy as GDP growth rate (GDPGR), financial deepening proxy as credit to private sector as a percentage of GDP (CPS).

Methodology

In line with existing literature and theory, and based on the aim of the study, the model specification of the study is specified below:

$$MC = f(FDI, PI, CPS, INF, REXR, GDPGR) \quad (1)$$

Expressing equation (1) in econometric form

$$LMC_t = \theta_0 + \theta_1 LFDI_t + \theta_2 LPI_t + \theta_3 CPS_t + \theta_4 INF_t + \theta_5 REXR_t + \theta_6 GDPGR_t + \varepsilon_t \quad (2)$$

Where

LMC is log of market capitalisation; LFDI is log of foreign direct investment; LPI is log of portfolio investment; CPS is credit to private sector as a percentage of GDP; INF is inflation rate; REXR is real exchange rate; GDPGR is gross domestic product growth rate.

The above model was analysed using the dynamic ordinary least square (DOLS) since the cointegration test indicates that the variables have a long-run link. Besides, the DOLS provides an optimal and efficient estimate of cointegrating regression.

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Result and Discussion

Test of Unit Root

To ascertain the unit root of the variables the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test was deployed. The outcome in Table 1 indicates that the variables became stationary at first difference. Hence, it becomes apt to find out, if the variables are cointegrated.

Table 1 Stationarity Test

KPSS TEST			
VARIABLES	**LM-STATISTICS**	**CRITICAL VALUES 5%**	**INTEGRATION ORDER**
LOG(MC)	0.18	0.463	1(1)
LOG(FDI)	0.075	0.146	1(1)
LOG(PI)	0.058	0.146	1(1)
CPS	0.16	0.463	1(1)
INF	0.06	0.146	1(1)
REXR	0.103	0.463	1(1)
GDPGR	0.11	0.146	1(1)

***Source**: Author's Computation*

Test of Cointegration

To establish whether the variables are cointegrated, the Maximum Eigenvalue and Trace test of the Johansen cointegration test was used. The outcome of table 2 showed that the variables have a long-run link. Since the test established that the variables are cointegrated, it, therefore, becomes necessary to employ the DOLS as a method of estimation. The DMOLS, as a method of estimation provides optimal and efficient estimates, of cointegration regression.

Table 2 Test of Cointegration

Null Hypothesis	*Trace Statistic*	*Critical Value (5%)*	*Maximum Eigen*	*Critical Value (5%)*	*Results*
r≤0	200.173	125.615*	102.102	46.231*	The Maximum Eigen showed one cointegrating vector, while Trace test showed two cointegrating vectors .
r≤1	98.071	95.754*	35.072	40.078	
r≤2	62.999	69.819	26.943	33.876	
r≤3	36.056	47.856	16.689	27.584	
r≤4	19.367	29.797	10.597	21.132	
r≤5	8.769	15.495	8.5818	14.264	
r≤6	0.1881	3.8415	0.1881	3.8415	

r is cointegrating vector.
***Source**: Author's Computation*

Dynamic Ordinary Least Square (DOLS) Estimate

Table 3 shows the outcome of the DOLS which revealed that FDI exert positive influence on stock market development. This implies that the inflow of FDI into the country has led to the growth and advancement of the nation's stock market. The research outcome corroborates previous research findings (Raza, 2012; Raza & Jawaid, 2014; Abubakar & Dalandi, 2018), who documented that FDI positively and significantly affects stock market development.

Table 3: DOLS Estimates

		Model
Dependent Variable		**LMC**
Independent Variables		
Log(FDI)		4.884***
		(0.144)
Log(PI)		0.156
		(0.064)
Control Variables		
CPS		1.771*
		(0.044)
INF		-2.054**
		(0.013)
REXR		1.070
		(0.003)
GDPGR		1.980**
		(0.062)
C		-4.602***
		(2.821)
R-Square		0.95
Adjusted R-Square		0.93
F- Statistics(Serial Correlation Test):	1.959	
F-Statistics: (Heteroscedasticity Test)	0.977	

****, **, *** represent level of significance at 10%, 5% and 1%.***
Figures in bracket signify standard error;

More so, it is also revealed that portfolio investment exerts a positive influence on the nation's stock market but does not drive growth in the stock market. The research finding is in line with previous studies (Onyeisi, Odo, & Anoke, 2016; Shanab, 2017) who found that portfolio investment drives the development of stock market. The diagnostic result showed that the outcome is free from serial correlation and heteroskedascity. Hence, the outcome can be used for policy decision making.

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Table 4: Test of Pairwise Granger Causality

Null Hypothesis:	F-Statistic
LOG(FDI) does not Granger Cause LOG(MC)	3.50462**
LOG(MC) does not Granger Cause LOG(FDI)	0.53636
LOG(PI) does not Granger Cause LOG(MC)	0.90477
LOG(MC) does not Granger Cause LOG(PI)	0.78579

, **, *** shows level of significance at 10%, 5% and 1%.)
Source: Eviews (2019)

Furthermore, the outcome in table 4 showed that FDI Granger cause stock market development uni-directionally. This implies that it is FDI that Granger cause development in the stock market. This finding supports the work of Bayar (2017), who revealed that FDI Granger cause stock market development.

Conclusion

In answering the research question whether private capital inflows affect the nation's development of stock market and the direction of causality, the study employed the DOLS technique which provides an optimal and efficient estimates of cointegration regression in analyzing the time-series data from 1981 to 2017. The findings from the study showed that FDI drives growth and expansion of the nation's stock market while portfolio investment has a positive link with the country stock market development. Besides, on the direction of causality, it is FDI that Granger cause stock market development. Drawing from the study outcome, the Nigerian government should continuously implement and improve policies that attract FDI into the country as it is necessary for the development of the country stock market. Besides, the monetary policy needs to continuously improve policy on portfolio investment to tackle its inherent nature, which is volatile. Finally, the government should strengthen the regulatory infrastructures, provides adequate market infrastructures, and also reduce transaction cost to attract private capital inflows.

References

Abubakar, M., & Dalandi, Y. U. (2018). Foreign direct investment and stock market development in Nigeria: Evidence from Ardl Bound test approach to cointegration. *IOSR Journal of Economics and Finance* (IOSR-JEF), 9(1), 79-85

Akinmulegun Sunday, O. (2018). capital market development and foreign portfolio investment inflow in Nigeria

(1985-2016). *Advances in Economics and Business 6(5): 299-307*

Bayar, Y. (2017). Foreign capital inflows and stock market development in Turkey. In *New Trends in Finance and Accounting* (pp. 71-81). Springer, Cham.

Idenyi, O. S., Ifeyinwa, A. C., Obinna, N. J., & Promise, E. A. (2016). Impact of foreign direct investment on stock market growth in Nigeria. *Asian Research Journal of Arts & Social Sciences*, 1-14.

Ifeakachukwu, N. P. (2015). Financial market development and capital inflows in Nigeria: The role of stock market development. *Journal of Investment and Management*, *4*(6), 369-376.

Kholdy, S., & Sohrabian, A. (2005, February). Financial markets, fdi, and economic growth: granger causality tests in panel data model. In *EFA 2005 Moscow Meetings*.

Nwosa, P. I. (2019). Does stock market development spurs capital inflows in Nigeria? *Nile Journal of Business and Economics*, *4*(9), 22-29.

Obadan, M.I. (2013). Coping with capital flow volatility: policy consideration for Nigeria. *Central Bank of Nigeria*, *51*(4), 177.

Onyeisi, O. S., Odo, I. S., & Anoke, C. I. (2016). Foreign portfolio investment and stock market growth in Nigeria. *Journal of Business and Management (IOSR)*, *6*(11), 64-76.

Osoro, C., Simiyu, E., Omagwa, J. (2020). Foreign capital flows and stock market capitalization at the Nairobi Securities Exchange, Kenya. *European Journal of Business and Management*, 12(26), 54-63

Otchere, I., Soumaré, I., & Yourougou, P. (2016). FDI and financial market development in Africa. *The World Economy*, *39*(5), 651-678.

Raza, A., Ahmed, Z., Ahmed, M., & Ahmed, T. (2012). The role of FDI on stock market development: the case of Pakistan. *Journal of Economics and Behavioral Studies*, *4*(1), 26-33.

Raza, S. A., & Jawaid, S. T. (2014). Foreign capital inflows, economic growth and stock market capitalization in Asian countries: an ARDL bound testing approach. *Quality & Quantity*, *48*(1), 375-385.

Sajid, A., Hashmi, M. A., Abdullah, A., & Hassan, M. A. (2021). Foreign capital inflows and stock market development in Pakistan. *The Journal of Asian Finance, Economics and Business*, *8*(6), 543-552.

Shanab, A.S. (2017). The effect of foreign portfolio investment (FPI) on capital market indices (evidence from Amman stock exchange). *International Review of Management and Business Research, 6(1).*

Van Bon, N. (2020) FDI and stock market development in developing countries: The role of governance environment. *Chiang Mai University Journal of Economics*, 24(2), 17-34