DO FOREIGN PORTFOLIO INVESTMENT INFLOWS PROMOTE CAPITAL MARKET DEVELOPMENT? NEW EVIDENCE FOR NIGERIA

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Abstract: This paper empirically investigates whether or not foreign portfolio investment (FPI) inflows promote capital market development in Nigeria, based on recent evidence, utilizing the framework of cointegration and error correction modelling (ECM) on annual time series data that covered the period 1981-2020. The empirical findings show a short-run dynamic and a long-run equilibrium relationship between foreign portfolio investment inflows and capital market development in Nigeria. Specifically, FPI has a positive and moderate effect on capital market development in Nigeria. Other variables that positively drive the development of the capital market are growth rate of the economy, market liquidity and real interest rate. Against the backdrop of the foregoing findings, we recommend the liberalization of foreign investment participation in the capital market, increased domestic economic openness, appropriate monetary policy framework to ease liquidity constraints, increase economic activities, fiscal incentives and strong regulatory and supervisory framework to eliminate abuses and sharp practices in order to steer the development of the Nigerian capital market.

Keywords: Foreign portfolio investment inflows, Capital market development, Market liquidity, Volatile flows, ECM

JEL Classification: F2, F21, E22

1. INTRODUCTION

Many developing countries are characterized by low level of domestic savings that impede the much-needed investment for economic development. In order to attain a desirable level of investment that would ensure sustainable development, these economies require some foreign savings to bridge the savings-investment gap. The gap when financed through foreign savings comes in the form of capital flows. Capital

flows is transmitted through foreign direct investment (FDI), foreign portfolio investment (FPI), drawdown on foreign reserves, foreign loans and credits e.t.c. (Obadan, 2004). Foreign portfolio investment (FPI) is a component of international capital flows that consist of transfer of financial assets, such as cash, stock or bonds (equities) across international borders in want of profit. It occurs when investors purchase non-controlling interests in foreign companies or buy foreign corporate or government bonds, short-term securities, or notes. In terms of capital market development, foreign portfolio investment is more akin, given its nature and composition. Given this, the level of activities and the growth of the capital market depends largely on foreign portfolio investment (FPI).

Capital flows result from individuals and countries seeking to make themselves better off, by moving accumulated assets to where they are likely to be most productive (ERP, 2006, cited in Ekeocha, 2008). FPI has become an increasingly significant part of international capital flows, and an important source of fund to support investment not only in developed but also in developing countries. The demand for longer-term finance by the private sectors, and the willingness on the part of developing country governments to provide the legal and regulatory frameworks are the driving forces, instruments, and institutions to foreign portfolio investment (FPI). However, these massive international flows of portfolio investment to emerging markets have sparked debate about the benefits and demerits (Ekeocha, 2008).

It is widely believed that the development of the Nigerian capital market would be more rapid if foreign participation is enhanced. In spite of the problems militating against inflow of investment to Nigeria, foreign participation has continued to contribute somewhat to the development of the market, through portfolio investment, which has however be been dwindling in recent times. As an aspect of international capital flows, foreign portfolio investment inflows has been relatively volatile over the past years in Nigeria. In view of this, opinions are findings are mixed as to whether FPI promotes capital market development. Much of the literature on foreign capital inflow has focused on foreign direct investment and other foreign resource inflows and their relationship with macroeconomic performance, with little empirical attention on foreign portfolio investment inflows and its link with capital market development. Against the backdrop of the short-term and volatile nature of FPI that could be reversed at short notice, leading to 'herding behavior', an empirical re-investigation of its role in capital market development is important. In addition, due to the dynamic nature of foreign portfolio investment and the recent capital flows disruptions due to the global economic vulnerability, it is important to re-examine the nexus between foreign portfolio investment and capital market development in Nigeria.

Following the introductory Section, the rest of the paper proceeds in the following structure. Section 2 reviews the extant literature, which consist of both the theoretical and empirical literature. Section 3 contains the methodology, model specification and data sources. The empirical results and analysis are presented in Section 4, and the conclusion and evidence-based policy perspectives are presented in section 5.

2.   LITERATURE REVIEW

2.1. Theoretical Issues

The theoretical literature has provided evidence of the benefits of capital flows; ironically, empirical evidence on the benefits is still mixed and inconclusive. Ayanwu and Yameogo (2015) hinged the reasons for foreign investment inflows under static and dynamic considerations. The static theory include the capital theory tradition, the international trade factor endowment theory, the internationalization theory and the eclectic paradigm. The dynamic ones include the investment path or the dynamic approach to ownership (O), Location (L) and internationalization paradigm. Others are the dynamic capability perspective and the integration-responsiveness paradigm. The literature on the forces driving foreign capital investment has also identified both policy and non-policy factors in terms of 'pull' or 'push factors', 'demand side' or 'supply side' or institutional factors'.

They constitute the basic macroeconomic and other factors, institutional and political factors that drives foreign investment inflows (Ayanwu, 2015). The push variables refer to those that are exogenous to the recipient country and that take place in countries that are capital suppliers, i.e. mostly industrial countries. The Pull variables on the other hand, are those that take place in the host country. These are market size (i.e economic size/ output), country conditions, such as trade openness of the domestic economy, infrastructure development, liquidity variables, government finance indicators, and vulnerability indicators. In line with the standard neoclassical theory, capital should flow from rich countries to poor countries (i.e. capital-scarce countries) in want for higher rate of return or profit. The tenets of the standard neoclassical hypothesis is based on the view that capital flows are more responsive to the marginal product of physical capital. Following this, capital-scarce countries tend to have higher rate of return on investment, and would therefore, attract higher investment inflows in the form of foreign direct investment and portfolio equity investment. The inflows are required to bridge the savings gap and the foreign exchange gap (i.e the two gaps) (Ozekhome, 2017).

2.2. Empirical Literature

Fernandez-Arias and Montiel (1995), using empirical exposition of the surge in capital flows and its sustainability, suggest the possibility of macroeconomic distortions arising

from internal imbalances necessitated by distortions in the domestic financial sector, the real economy or due to inadequate macroeconomic policy framework. Clark and Berko (1996) show a positive contemporaneous relation between equity flows and stock market development, based on monthly data for Mexico. Bohn and Tesar (1996) and Brennan and Cao (1997), using aggregate international portfolio flows on quarterly basis find similar evidence of contemporaneous correlation between foreign investment inflows and stock market returns. Choe, Kho and Stulz (1998) examine the impact of foreign investors on stock market development in Korea before and after the 1997 Asian crisis using daily trade data. They find evidence of positive feedback trading before the crisis. During the crisis period, a weakening of the herding effect and disappearance of positive feedback trading by foreign investors is found. Further analysis show no evidence of a destabilizing effect of foreign investors' trade on the Korean stock market. Siamwalla, and Vichyanond (1999) find evidence that increase in international flow of portfolio investment enhances trade globalization, international financial linkages, expansion of production bases overseas and capital market development.

Froot, O'Connell and Seasholes (2001) examines the role of international capital flows in the development of the capital market. The results reveal that a one-basis point shock to international portfolio flows results to a 40 basis point increase in equity prices. The 'herding behaviour' of foreign investors is found to be the possible explanation for the reverse direction of causality from portfolio flows to stock market returns. Chakrabarti (2001), using monthly data-set for the period May, 1993 to December, 1999, finds that net foreign institutional investment inflows are not only correlated with the returns in the Indian equity market but are also more likely the effect than the cause of the Indian equity market returns. This is in contrast to the findings that foreign investors' activities having a strong demonstration effect and drive the domestic stock market. Jo (2002) finds evidence of instances where foreign portfolio flows induce greater volatility in markets compared to domestic investors. On the contrary, Bekaert and Harvey (1998) and Errunza (2001) find evidence that foreign institutional investment (FII) flows do not have significant impact in increasing volatility of stock returns.

Bose and Coondoo (2002) suggests that foreign portfolio flows to and from the Indian market tend to be caused by returns in the domestic equity market and not the other way round. In a similar study, Richards (2002), using data for daily net purchases by foreigners in six Asian emerging equity markets over the period 1999 - 2001, finds evidence of a positive- feedback trading with respect to domestic US and regional equity returns. Morgan (2002) examines the role of FPI in the capital market development of India. He finds a significant positive role of foreign portfolio investment

in India's forex reserves, enabling a host of economic reforms. He also finds that FPI strongly influence short-term market movements during bear markets. Gordon and Gupta (2003) show that lagged domestic stock market returns positively influence capital market development.

Durham (2003), using data on 88 countries from 1977- 2000, however, show that FPI has no effect on stock market development. Errunza (2005) finds that the reform of local capital markets and relaxation of capital controls to attract foreign portfolio investments (FPIs) have enhanced capital market openings, and that the sudden shifts in international capital flows has stimulated capital market liberalization. He reassesses the benefits and costs of FPIs from the perspective of the recipient country and finds empirical evidence regarding the relationship between FPIs and market development, degree of capital market integration, cost of capital, cross-market correlation and market volatility. The evidence further show that the benefits of FPIs is strong, while the policy concerns regarding resource mobilization, market co-movements, contagion and volatility are largely weak. He suggest measures for capital market openings, market regulation and liberalization sequencing. Aggarwal, Klapper and Wysocki (2005) find that equity returns from portfolio investment has a significant positive impact on capital market development. A bi-directional relationship between FPI and capital market development is found. Further evidence shows that countries with higher level of economic development, floating exchange rate and legal framework attract more foreign capital.

Agarwal (2006) examines the determinants of foreign portfolio investment (FPI) and its impact on the national economy in six developing Asian countries. The results show that inflation rate, real exchange rate, index of economic activity and the share of domestic capital market in the world stock market capitalization are statistically significant. Krishna and Prasanna (2008) investigates the contribution of foreign institutional investment to the Bombay Stock Exchange. They also examine the relationship between foreign institutional investment and firm specific characteristics in terms of ownership structure, financial performance and stock performance. The findings show that foreign investment positively influences stock market development. Ekeocha (2008) models the ne xus between FPI and stock market development in Nigeria using quarterly data that span the period 1986-2006. The results show that FPI is positively related to real rate of return on investments in the capital market, while a negative relationship between market capitalization, real exchange rate, trade degree of openness and institutional quality is observed.

Edo (2011) examines the contribution of foreign portfolio investment to market development in an emerging economy of Nigeria. The Vector-Auto regression (VAR)

model results show evidence of insignificant effects of foreign portfolio investment (FPI) and foreign issue of securities (FS) to the development of the capital market compared to other contending factors, such as domestic securities investment (DSI) and domestic issue of securities (DS). He suggests the liberalizing of investment laws, granting of fiscal incentives and strengthening the surveillance of the capital market to enhance market efficiency.

Onyeisi, Odo and Anoke (2016), using the data that covered the period of 1986 to 2014, co-integration, vector error correction model and granger causality econometric tools finds a long-run significant link between foreign portfolio investment and stock market growth. The authors suggest strong regulatory measures as well as FPI-enhancing policies to develop the capital market in Nigeria. Sameh (2017) assesses the effect of FPI inflows on capital market development indices, using evidence from Amman stock exchange in Jordan over the period 2005 to 2016. The OLS results show a statistically significant effect of FPI on market capitalization. He recommend that stock market regulators, should through conscious risk reduction policies formulation and implementation reduce the riskiness of investing in the stock market to increase transactions and liquidity in the stock market, boost the rate of turnover to investors to attract foreign portfolio investors to the Jordanian financial market. Adesola and Oka (2017) examine the long run causal relationship between foreign portfolio investment and stock market performance in Nigeria over the period 1984- 2015. The findings show that stock market liquidity and FPI have no significant relationship with stock market performance. Total new issues, however, has a short run relationship with foreign portfolio investment in Nigeria. The authors suggest measures to enhance domestic market participation to enhance the development of the stock market.

Ohiaeri (2017) investigate the effects of foreign portfolio investment inflows and capital flight on capital market performance in Nigeria, employing cointegration, error correction modelling and granger causality test approaches. The causality test results show a unidirectional causality between foreign portfolio investment (FPI) inflows and capital market performance and between capital flight and capital market performance. He further finds evidence of a significant connection among the examined variables. He suggests amongst others, an urgent review of the capital importation policy, a robust regulatory framework and a re-investment incentive to discourage indiscriminate repatriation of investment proceeds outside Nigeria.

Ajayi, Adejayan and Obalade (2017) examine the impact of foreign private investment on the development of Nigerian capital market, using data that covered the period 1986 to 2014 and cointegration and error correction techniques. The findings revealed a long-run co-integration between market capitalization, foreign direct and portfolio investments. Specifically, FPI is positively related to market capitalization but

not significant, while FDI is significant in determining market capitalization in Nigeria. They recommend policy measures to encourage continuous inflow of investment, as well as strengthening the market regulatory framework to ensure equitable dealing. Akinmulegun (2018), using data that covered the period 1985- 2016, the vector error correction mechanism (VECM) and granger causality test, finds no evidence of significant causality between capital market development and foreign portfolio investment in Nigeria. Further findings show that market capitalization has negative significant effect on foreign portfolio investment in Nigeria, while the All Share Index (ASI) has a positive and significant impact. He recommend policy measures to further propel the development of the capital that will sustain the positive effects of attracting foreign portfolio investment into the Nigerian economy, in addition to increased interest of foreign investors in subscribing to portfolio investment in Nigerian enterprises.

Arikpo and Ogar (2018) utilize data covering the period 1972 to 2016 and the vector auto regression (VAR) to examine the link between foreign private investment and stock market performance in Nigeria. The findings reveal positive and significant relationship between foreign direct investment and market capitalization- being the indicator of stock market performance and a positive and significant effect of foreign direct investment on number of listed companies, the All Share Index, turnover ratio and value of transaction. The authors suggest suitable investment conditions such as steady power supply, good road networks, e.t.c., to enhance FDI and boost capital market performance in Nigeria. They also suggest the quoting of securities on the Nigerian capital market by foreign investors and the provision of special benefits, such as tax holidays to quoted FDI companies, as well as appropriate regulatory framework to boost investors' confidence in the market through greater transparency, fair-trading and discouraging of capital fright.

2.3. Gap in Literature

From the review of the pertinent literature, the effects of the liquidity of the market, growth rate of the economy (i.e economic activities) and real interest have not been examined alongside FPI on capital development. These factors are crucial, especially for an evolving capital market like Nigeria where there many structural and episodic factors affect the development of the market. In addition, given the high risk of volatility, especially, FPI (short-term flows) that could be reversed at short notice, with destabilizing financial consequences, such as the possibility of herding behavior or financial contagion and the recent capital and financial disruptions across the globe, an empirical re-examination of its role in capital market development, using current statistical evidence becomes sacrosanct.

3. EMPIRICAL METHODOLOGY

3.1. Model Specification

In order to examine the systematic relationship between foreign portfolio investment (FPI) inflows and capital market development in Nigeria, the stylized specify a stylized FPI-capital market development model of the form:

$$MC_t = f(FPI_t, X_t) \tag{1}$$

where MC = Capital market capitalization as percentage of GDP, used as a measure of capital market development; FPI= Foreign portfolio investment (FPI) inflows to GDP percent; t is time period and X is a vector of other determinants, in line with the literature that influence capital market development. These variables include:

OPN = openness of the domestic economy to trade- measured as the sum of exports and imports to GDP percent; ML= Market Liquidity- measured as the ratio of total value traded to market capitalization. Liquidity is the ease and speed with which economic agents can buy and sell securities. With a liquid market, investors do not lose access to their savings for the duration of the investment project since they can easily, quickly, and cheaply, sell or convert their stake in the market (Yartey, 2008). Thus, higher liquid markets tend to facilitate more investments in the long-run and potentially more profitable projects, thereby improving the allocation of capital and enhancing prospects for long-term growth. The more liquid the market is, the larger the amount of savings that are channeled into investment.

GRGDP = growth rate of real GDP, which is included as one of the explanatory variables following Pasinetti's profit – growth model. Pasinetti's model stipulates that there is only one equilibrium rate of profit, which is determined, by the natural rate of growth divided by the capital owner's propensity to save. For instance, the internal rate of return (IRR) is a measure of the rate of return expected by capital. The intuition of the Pasinetti's model is that IRR can be subsumed in GRGDP, hence in this study, GRGDP is used as a proxy for rate of return (see Ekeocha, 2008; Ayanwu & Yamèogo, 2015), and; RIR =real rate of interest- measured as nominal interest rate adjusted for price inflation.

On inclusion of these variables, the complete functional model is:

$$MC_t = f(FPI_t, OPN_t, ML_t, FD_{i,t}, GRGDP, RIR_{it}) \tag{2}$$

The empirical form of the model is specified as:

$$MC_t = \alpha_0 + \alpha_1 FPI_t + \alpha_2 OPN_t + \alpha_3 ML_t + \alpha_4 GRGDP_t + \alpha_5 RIR_t + \varepsilon_t \tag{3}$$

Where all the variables are as earlier defined

The *a priori* expectations are (α_1, $\alpha_2 \alpha_5$, α_4, > 0; $\alpha_{45} < 0$.

$\alpha_0 - \alpha_5$ are parameters to be estimated, and ε_t is the error term.

3.2. Method of Data Analysis and Sources of Data

The study employs unit root testing, Cointegration and Error correction Model (ECM) to empirically examine whether foreign portfolio investment inflows promote capital market development in Nigeria. As a prelude to this, the unit root properties of the time series variables is investigated since, the regression of non-stationary time series variable on another may yield spurious and inconsistent parameter estimates (Engle & Granger, 1987).The study covers the period 1981 – 2020. The data are obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin and Securities and Exchange Commission (SEC) Handbook.

4. EMPIRICAL RESULTS AND ANALYSIS

4.1. Descriptive Statistics

Table 1 shows the descriptive statistics of the variables used for the analysis. The average rate of market development- indicated by market capitalization to GDP is 22.90 percent, with a standard deviation value of 12.88. The maximum and minimum values are 75.3 percent and 12.8 percent, respectively. Average foreign portfolio investment inflows to GDP percent is 3.05 percent, with a median value of 2.95, and a standard deviation of 7.52. Thus, FPI has been relatively volatile over the estimation. The corresponding average values for openness of the economy to trade, market liquidity, growth rate of real GDP and real interest rate are 60.2 percent, 0.96 percent 4.3 percent and 7.3 percent, respectively.

Table 1: Descriptive Statistics

	Mean	*Median*	*Max.*	*Min.*	*Std. Dev.*
MC	22.90	21.88	75.28	12.34	12.67
FPI	3.05	2.95	10.46	-0.12	7.52
OPN	60.20	59.73	71.20	27.34	16.40
ML	0.96	0.88	4.29	0.07	1.10
GRGDP	4.30	4.25	8.25	-1.28	4.28
RIR	7.25	8.08	12.15	1.28	2.23

Source: Authors' computation.

4.2. Unit Root Testing

Unit root test involves test of stationary for variables used in regression analysis. Stationarity of time series is hinged on the fact that non-stationary time series cannot be applied to an extended period apart from the present. This makes forecasting and policy inferences based on such series of little practical value. Added to this, is the fact that the regression of a non-stationary time series on another may produce spurious and nonsense correlations. The results of the unit root test are presented in levels and first difference in Table 2, using the Augmented Dickey Fuller (ADF) test. From the unit root test results, the null hypothesis of no unit root could not be rejected for the time series variables at the 5% level of significance, an implication that the time series variables are non-stationary at levels. Following Box and Jenkins (1994), that non-stationary time series variables can be made stationary by differencing them, the variables were subjected to the first-differencing mechanism. After the first differences, the variables became stationary. The variables are therefore, difference-stationary, attaining stationary after first difference. They are thus integrated of order one {(i.e. I (1)}.

Table 2: Unit Root Stationary Test for Variables in Levels and First Difference

Variables	ADF Statistic (in Levels)	ADF Test Statistic (in First Difference)	Order of Integration	Remark
MC	-1.072	-6.225***	I(1)	Stationary
FPI	-1.115	-5.774**	I(1)	"
OPN	-1.220	-5.430**	I(1)	"
ML	-1.1062	-4.782**	I(1)	"
GRGDP	-1.213	-5.913**	I(1)	"
RIR	-2.177	-6.221***	I(1)	"

** (***) denotes significance at the 5% (1%) level

Source: Authors' computation.

4.3. Test of Cointegration

Having established that the series are not stationary in levels, but at first difference {i.e. I(1)}, the cointegration test is performed. The Johansen Cointegration method is used for this analysis because the study involves the use of multivariate estimations. The results from the multivariate cointegration test are presented in Table 3. As can be seen from the table, both the ë-max and the trace test statistics indicate that there is at least four significant cointegrating vector among the variables since the hypothesis of no cointegrating vector (r=0) is to be rejected. Apparently, the number of cointegrating

relations or vectors (indicated by r) is at least four. The implication of this is that a long run relationship exists between foreign portfolio investment and capital market development in Nigeria.

Table 3: Johansen Multivariate Cointegration Tests Results

Trace Test			*Maximum Eigenvalue Test*			
Null Hypothesis	*Test Statistic*	*Critical Value*	*Null Hypothesis*	*Test Statistic*	*Critical Value*	*Hypothesized No of CE(s*
r = 0*	107.2	78.12	r = 0*	88.22	47.10	None**
r ≤ 1 *	70.23	52.41	r = 1*	57.25	28.06	At most 1**
r ≤ 2*	38.40	26.02	r = 2*	30.17	12.13	At most 2**
r ≤ 3*	14.72	9.31	r = 3*	9.12	5.06	At most 3**
r ≤ 4*	5.45	1.26	r = 4*	3.019	0.028	At most 4**
r ≤ 5*	0.04	0.06	r = 5*	0.04	0.06	At most 5

** (***) denotes rejection of the hypothesis at 5% (1%) significance level
Source: Authors' computation.

4.3. Error Correction Model

The results of the error correction model showing the response of capital market development to foreign portfolio investment (FPI) inflows and other variables is presented in Table 4.

Table 4: Error Correction Model Results

Dependent Variable: MC		
Variable	*Coefficient*	*T-ratio*
C	0.105	0.873
D(MC(-1))	0.024	1.342
D(FPI)	0.175	1.896*
D(FPI(-1))	-0.012	-1.241
D(OPN)	0.243	2.781**
D(ML)	0.222	1.453
D(GRGDP)	0.362	3.674***
D(RIR)	0.052	2.152**
ECM (-1)	-0.814	-2.842**

R^2 = 0.873
Adjusted R^2=0.83
F-value = 73.15
Breusch-Godfrey LM Serial Correlation Test Statistic =1.50 (0.26)
***, ** and * denotes significance at the 1%, 5% and 10% significance level, respectively.
Source: Authors' computation.

The adjusted R^2 value of 0.83 shows that the independent variables and the ECM explain 83 percent of the net systematic variations in capital market development over the estimation period, thus making the predictive ability of the model good. The F-value of 73.2 is highly significant at the 1 percent level, validating the hypothesis of the existence of a significant linear relationship between capital market development and all the explanatory variables combined. The first lag of capital market development is positive, an implication that past developments in the capital market development tend to influence future development of the capital market, particularly, when policies and previous gains are sustained. The coefficient of the lag of FPI appears negative and insignificant. Thus, past realization of FPI does not guarantee future FPI inflows, particularly as FPI can easily be withdrawn or reversed, making it short-term and volatile.

Current FPI is positively signed and passes the significance test only at the 10 percent level. Thus, increase foreign portfolio investment contributes positively to stock market development, with a moderate impact. The impact is however not pronounced apparently due to the short-term and volatile nature of FPI-being a lesser component of international capital flows. This also explained from the perspective of the dwindling FP inflows in recent times because of a host of inhibiting factors, ranging from poor macroeconomic environment, lack of appropriate foreign investment-enhancing laws and political instability. The coefficient domestic openness to trade is positively signed in line with presumptive expectation and significant at the 1 percent level. Thus, greater degree of trade openness and the associated increased trade-related activities tend to stimulate capital market development through increased market trading activities. The coefficient of stock market liquidity is positively signed but not significant. Thus, stock market liquidity enhances the development of the capital market. Since the t-ratio is greater than 1, it can be inferred that market liquidity stimulates capital market development in Nigeria but the impact is weak due apparently to liquidity constraints.

The coefficient of economic growth is positively signed in line with theoretical expectation and significant at the 1 percent level. Invariably, increased economic activities tend to stimulate capital market development. As a proxy for the rate of return, there is evidence that the rate of real return influences investment decision in the capital market. Thus, greater return on capital investment tend to induce greater level of foreign participation in the stock market, and this tend to stimulate the development of the capital market in line with the Passinatti's profit-growth model. The coefficient real interest rate is positively signed and passes the significance test at the 5 percent level. Thus, rising real interest rate tend to induce greater level of investment in the stock market and its consequent development. Its positive and significant coefficient is in line with theory that port folio investment flows result from individuals and countries

seeking to make themselves better off, moving accumulated assets to wherever they are likely to be most productive (ERP, 2006).

The post-estimation evidence using the Breusch-Godfrey LM test leads to the non-rejection of the null hypothesis of no serial correlation {with F-Statistic = 1.50 (0.26)}, as the p-value of the test statistic is greater than 0.05. This implies that the there is no serial correlation in the model. The estimated model is therefore, fit for structural and policy analysis. Apart from the diagnostic statistics, the error-correcting term, which captures the speed of adjustment from short-run equilibrium to a long-run equilibrium, is appropriately signed and significant. Its coefficient indicates that the contemporaneous adjustment of the Nigerian capital market to long-run equilibrium after short-term disequilibrium is about 81 percent.

4.4. The Long-run Analysis

Having analyzed the empirical results of the short-run dynamic model, we proceed to estimate the long run model. The result of the estimates of the long run equation and its regressors is presented in Table 5.

Table 5: Long Run Model Results

Dependent Variable: MC		
Variable	*Coefficient*	*T-ratio*
C	0.1258	1.205
FPI	0.0184	1.802*
OPN	0.3025	2.271**
ML	0.1116	1.025
GRGDP	0.2570	2.621***
RIR	0.0025	1.068

***, ** and * denotes significance at the 1%, 5% and 10% significance level, respectively.
Source: Authors' computation.

In the results, only the coefficient estimates and the asymptotic t-ratios are reported. As can be observed, the coefficient of FPI (the main variable of interest) has the right sign and is significant only at the 10 percent, an indication of a mild impact of FPI on capital market development in Nigeria. This result confirms that of the short-run. The coefficients of openness and growth rate of real GDP are both positively signed and statistically significant at the 5 percent; an indication that both domestic openness to trade and increased economic output are capital development-enhancing. Apparently, these variables influence capital market development in the long-run in Nigeria.

5.   CONCLUSION

This paper examined whether or not foreign portfolio investment (FPI) promote capital market development in Nigeria, based on current data evidence. Employing cointegration and error correction modelling techniques, the empirical results show that FPI has a positive and moderate impact on capital market development in Nigeria. Other variables that positively and significantly influence capital market development are GDP growth rate (proxy for profit rate of return), domestic openness to trade and the real interest rate. Market liquidity is positively related to capital market development, albeit a weak impact.

Given the critical role of the capital market in the mobilization and allocation of resources for long-term growth, and in the diversification of risks, it is important for policy makers to put in place effective policies that will liberalize the capital market to ease restriction on entry of foreign investors into the market. This will require enabling laws and institutional framework to enhance foreign participation. Policy measures to enhance trade openness through the removal of artificial and non-artificial trade barriers are also important. Other policy measures include easing of market liquidity constraints and the implementation of appropriate interest rate policy to encourage capital development in Nigeria.

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