Does Stock Market Development Spurs Capital Inflows In Nigeria?

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Previous studies have focused extensively on the impact of stock market development on capital inflows while a growing number of studies have also centered on the impact of capital inflows on stock market development. However, the findings of these studies have been grossly inconclusive. Further, the previous studies (particularly indigenous studies) did not consider the issue of causality between stock market development and capital inflows while the few studies on causality focused extensively on foreign direct investment neglecting other types of capital inflow such as foreign portfolio investment. To fill this empirical gap in literature, this study sought to examine the causal nexus between stock market development and foreign capital inflows (foreign direct investment and foreign portfolio investment) in Nigeria for the period 1986 to 2016. Using Pair-wise Granger Causality approach, the study observed the absence of causality between stock market development and foreign direct investment while unidirectional causality was observed from stock market development to foreign portfolio investment. The study concluded that development in stock market influence the inflow of foreign capital into the Nigeria capital market. The study therefore recommends that need for increased development of the stock market in order to attract more foreign capital into the Nigerian economy.

Key words: Stock Market Development, Capital Inflows, Causality, Nigeria

INTRODUCTION

Over the years, the stock market has emerged as an important aspect of the financial system in providing long term finance for economic growth (Adjasi and Biekpe, 2006; Beck and Levine, 2004). The prominence of the stock market in recent years and the phenomenal growth in the activities of the stock market is not independent of the wave of financial liberalizations experienced by the developing countries (Nigeria Inclusive) since the mid-1980s. Since the financial liberalization era, the Nigerian stock market has witnessed impressive growth as marked by the increased ratio of market capitalization to gross domestic product, high turnover ratio and high value traded ratio. These stock market development indicators act as incentives to foreign investors in search for higher returns for their investment, thereby signaling the inflow of foreign capital into the domestic economy. Syed et al. (2013) noted that capital inflows are
mostly linked with stock market development while Henry (2000), Desai et al. (2006) and Mercardo and Park (2011) noted that stock market development enhances the liquidity of quoted firms and provides access to long term finance at a reduced cost (Otker-Robe et al., 2007; Dailami and Aktin, 1990), thereby making domestic financial market more attractive to foreign investors. In other words, theses authors noted that it is development in the stock market that influences or causes inflows of foreign capital into the domestic economy.

In contrast, Kholdy and Sohrabian (2005), Rajan and Zingales (2003) posited that it is capital inflows which influence or causes stock market development. According to these authors, an increase in capital inflows can prompt the host economy in adopting market friendly policies capable of developing the stock market. Also, an increase in net capital inflows may increase the volume of available fund in the financial system which in turn may enhance the development of the stock market (Otchere et al., 2011). The crash of stock markets in many developed and emerging economies during the recent 2007/2008 global financial crisis was attributed to the massive withdrawal of foreign capital in these economies; and further gave credence to the argument that it is capital inflows which influences or causes stock market. Taking an intermediate view, Otchere et al. (2011) and Soumare and Tchana Tchana (2011) noted that the direction of influence or causality between stock market development and capital inflows is bidirectional.

Although a growing number of indigenous studies have examined that impact of stock market development on capital inflows while a considerable number have equally focused on the impact of capital inflow on stock market development. However, the findings of these studies have not only been inconclusive; also these studies did not consider the issue of causality. Therefore, the spotlight of this study is to examine the issue of causality between stock market development and foreign capital inflows in Nigeria. Examining the direction of influence or causality between variables is important; because it provides guideline for policymakers in making insightful policy decisions on whether government policy on stock market development-capital inflow relationship should be stock market led policy (that is if stock market influences or causes capital inflows) or otherwise.

Apart from the above, this study contributes to literature by examining the nexus between foreign portfolio investment and stock market development which has been neglected by previous studies. The few studies on causality between stock market development and capital inflows (see Soumare and Tchana Tchana, 2011; Otchere, et al., 2011; Al Nasser and Soydemir, 2010) only considered foreign direct investment (FDI) without considering other forms of capital inflows such as foreign portfolio investment (FPI). Given that portfolio investment consists of investments in short term securities which dominate the stock market; it is imperative to know whether stock market development influences the inflow of portfolio investment or otherwise. Apart from the above, understanding the direction of causality can help policy makers in making guided policies that would enhance the relationship between stock market development and capital inflows. It is against this backdrop that this study seeks to fill the gap in literature by examining the direct causal nexus between stock market development and capital inflows (foreign direct investment (FDI) and foreign portfolio investment (FPI)) in Nigeria for the period 1986 to 2016.
EMPIRICAL REVIEW

As noted above, only a few studies have examined the direct causal nexus between stock market development and capital inflows. Bayar (2017) examined the causal relationship between foreign capital inflows (proxied by foreign direct investment, foreign portfolio flows and remittances) and stock market development in Turkey for the period January 1992 to December 2015 using bootstrap causality test. The causality result showed a unidirectional causality from foreign direct investment inflows to stock market development and unidirectional causality from stock market development to foreign portfolio investments.

Nwosa (2015) investigated the relationship between capital inflows and stock market development in Nigeria for the period spanning 1986 to 2013. Capital inflow was proxied by foreign direct investment and foreign portfolio investment while stock market development was proxied by market capitalization, turnover ratio and value traded ratio. The study employed error correction modelling techniques and the result showed that market capitalization and value traded ratio had significant influence on foreign portfolio investment while none of the measures of stock market development significantly influenced foreign direct investment in the long run in Nigeria. The short run estimate showed that among the three measures of stock market development only market capitalization influenced both foreign direct investment and foreign portfolio investment while value traded ratio only had significant influenced on foreign direct investment in the short run. The study concluded that stock market development had not significantly promoted the inflows of foreign capital inflow in Nigeria.

Vladimir et al. (2013) examined the relationship between stock market and foreign direct investment in Croatia for the period 2001:1 to 2011:4. Utilizing Johansen co-integration and Vector Auto-Regression (VAR) methods, the study observed that there exists no long run relationship between stock market development and economic growth while the VAR estimate showed unidirectional causality from stock market to foreign direct investment. Otchere et al. (2011) examined the causal relationship between foreign direct investment and financial market development. Financial market development was measured by six variables (ratio of total stock market capitalization to GDP; stock market turnover ratio; total stock market value traded; ratio of total credit to private sector to GDP; ratio of liquid liabilities of the financial system to GDP and ratio of commercial bank assets to commercial bank plus central bank assets). The Granger causality test estimate revealed a bi-directional causality between all the six measures of financial market development and foreign direct investment. Bidirectional causality results were also observed by Soumari and Tchana Tchana (2011) for a group of emerging countries and Al Nasser and Soydemir (2010) for a group of developing countries.

Syed et al. (2013) examined the effects of foreign capital inflows and economic growth on stock market capitalization in Pakistan over the period 1976 to 2011. The study employed the Autoregressive Distributed Lag (ARDL) technique. The findings of the study showed that foreign direct investment, workers’ remittances and economic growth have positive and significant effects on the stock market capitalization both in the long run and in short run. The results of the dynamic ordinary least square (DOLS) and fully modified ordinary least square (FMOLS) suggested that the ARDL long run result was robust. The variance decomposition
estimate showed the existence of bidirectional causation of foreign direct investment and economic growth with stock market capitalization. However, unidirectional causal relationship was observed between workers’ remittances and stock market capitalization. Zafar (2013) examined the relationship between foreign direct investment and stock market development in Pakistan for the period 1988 to 2008. The results of the study showed a strong positive association between stock market development and foreign direct investment.

Mercado and Park (2011) examined the determinants of the size and volatility of various types of capital flows to developing Asia with regard to other emerging market economies. The study employed General Moment Method (GMM) method and the results of the study showed that per capita income growth, trade openness, and changes in stock market capitalization are important determinants of capital inflows to developing Asia. The result also showed that trade openness increases the volatility of all types of capital inflows, while change in stock market capitalization, global liquidity growth, and institutional quality lowers the volatility. Further, the study observed that a regional factor plays an important role in determining the size and volatility of capital inflows in emerging Europe and emerging Latin America, suggesting that regional economic cooperation and policy coordination may be an important element in designing a policy framework to manage capital inflows in emerging economies.

Olotu and Jegbefume (2011) examined the impact of foreign portfolio investment on economic growth for the period 1980 to 2009. The study adopted the Impact Assessment Model and the Error Correction Model (ECM). The finding of the study showed that foreign portfolio investment had a positive impact on the growth rate of real non-oil GDP. In Pakistan, Yasmin (2005) examined the impact of foreign capital investment on economic growth. Using simultaneous equation model, the study observed that foreign capital investment had a positive and significant impact on Pakistan’s economic growth. Using cross country data, Durham (2003) examined the effects of foreign portfolio investment and “other” foreign investment on economic growth. The study observed that foreign portfolio investment had no effect on economic growth and does not correlate positively with macroeconomic volatility. In India, Sethi and Patnaik (2005) investigated the effect of international capital flows on economic growth. Utilizing monthly data, the study observed that foreign direct investment had positive impact on economic growth while foreign portfolio investment had negative impact on India’s economic growth. Daferighe and Aje (2009) examined the relationship between stock market performance and economic growth in Nigeria for the period 1997 to 2006. The findings of the study showed that economic growth had a positive and significant impact on stock market performance. Relatedly, Adaramola (2011) also examined the relationship between macroeconomic variables and stock prices in Nigeria over the period of 1985 to 2009. Using quarterly data, the study also observed that economic growth had a positive and significant effect on stock prices in Nigeria.

Apart from the few reviewed studies, other studies on stock market development and foreign direct investment have examined the impact of foreign direct investment on stock market (see Oseni and Enilolobo, 2011; Adam and Tweneboah, 2008); the impact of foreign direct investment on economic growth (see Fasanya, 2012; Eshenake and Oriavwote, 2012; Umoh et al. 2012; Egwaikhide, 2012), the impact of stock market development on economic growth (see Idohor and Erah, 2011; Akinlo and Akinlo, 2009; Osinubi, and Amaghionyeodiwe, 2003) or the role played by stock market development in the contribution of foreign direct investment on
economic growth (Saibu, et al. 2011; Alfaro, et al. 2010; Allen, et al. 2010). As noted in the introductory section, these previous studies paid little or no attention to the direction of causality between stock market development and foreign portfolio investment. This study therefore examines the direct causal relationship between stock market development and capital inflows (foreign direct investment and foreign portfolio investment) in Nigeria.

**RESEARCH METHODOLOGY**

According to the neoclassical growth model, developing countries tend to be net importer of foreign capital. In the short run, the marginal productivity of capital (and therefore its return is expected to be higher in developing countries than in the advanced countries, given the high labour/capital ratio in the developing countries. Thus, as developing countries experience financial development (such as growth in stock market), capital is expected to flow from the advanced countries into developing countries given the perceived increase in the marginal productivity of capital and its return in developing countries. The flow of capital from the advanced countries to developing countries will continue until additional investment in capital in these economies equalizes the marginal return of capital between countries (Ramos-Tellada, 2011). The implication of the above is that financial market development influences the inflow of foreign capital into domestic economies (like Nigeria) particularly in the quest for higher returns for their investments. Therefore, to examine the issue of influence/causality between stock market development and foreign capital inflows, a bi-variate granger causality VAR model is specified.

\[
Y_t = \sum_{i=1}^{n} \alpha_{11} Y_{t-i} + \sum_{i=1}^{n} \alpha_{12} X_{t-i} + u_{1t} \tag{1}
\]

\[
X_t = \sum_{i=1}^{n} \alpha_{21} Y_{t-i} + \sum_{i=1}^{n} \alpha_{22} X_{t-i} + u_{2t} \tag{2}
\]

Where \(Y_t\) refers to foreign capital inflows (foreign direct investment and foreign portfolio investment) and \(X_t\) refers to stock market development.

**Measurement of Variables and Sources of Data**

Stock market development is measured by the ratio total market capitalization to gross domestic product (SMKGD), foreign direct investment is measured by the ratio of Net foreign direct investment to GDP (FDIGD) and foreign portfolio investment is measured by the ratio of Net foreign portfolio investment to GDP (FPIGD). The data used in this study were obtained from the 2016 Central Bank of Nigerian (CBN) statistical bulletin.

**EMPIRICAL RESULT**

The causality result as presented in the table1, revealed the absence of causality between stock market development and foreign direct investment. This is because the probability values of the null hypothesis that “SMKGD does not granger cause FDIGD” and “FDIGD does not granger cause SMKGD” were insignificant. This implies that stock market development over the period of study did not influence the inflow of foreign direct investment while the inflow of foreign direct investment did not influence stock market development either. This result is in
contrast to those obtained by Otchere et al. (2011), Soumare and Tchana Tchana (2011) and Al Nasser and Soydemir (2010). However, the result of the causality test between foreign portfolio investment and stock market development revealed unidirectional causality from stock market development to foreign portfolio investment while no feedback was observed.

The unidirectional causality result from stock market development to foreign portfolio investment is in line with a priori expectation, because portfolio investment consists of equities and other short term securities which will usually flows to developed or growing stock market. For instance, before the US financial crisis of 2007/2008, the Nigeria stock market experienced tremendous growth and this may have influenced the inflow of portfolio investment into the stock market.

Table 1: Pairwise Causality Estimate

<table>
<thead>
<tr>
<th>Null Hypothesis (H₀)</th>
<th>F-Statistic (Probability)</th>
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<tbody>
<tr>
<td>SMKGDP does not granger cause FDIGDP</td>
<td>1.53535 (0.2409)</td>
</tr>
<tr>
<td>FDIGDP does not granger cause SMKGDP</td>
<td>0.81740 (0.4565)</td>
</tr>
<tr>
<td>SMKGDP does not granger cause FPIGDP</td>
<td>22.2513 (0.0000)</td>
</tr>
<tr>
<td>FPIGDP does not granger cause SMKGDP</td>
<td>1.80490 (0.1916)</td>
</tr>
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Source: Author’s computation from E-views 9, 2018.

CONCLUSION

This study explored the direct causal relationship between stock market development and foreign capital inflows (foreign direct investment and foreign portfolio investment) in Nigeria for the period 1986 to 2016. Using a bi-variate VAR Granger Causality approach, the study observed no causality between stock market development and foreign direct investment while unidirectional causality was observed from stock market development to foreign portfolio investment. Given that stock market development caused the inflows of portfolio investment, the findings of this study implies that government policies should be stock market development-capital inflows led. That is government policies should focus on further and continuous development of the stock market and this is expected to attract more foreign capital into the Nigerian economy.

REFERENCE