
FOREIGN DIRECT INVESTMENTS AND CAPITAL MARKET DEVELOPMENT IN NIGERIA

Gina Oghogho Olufemi; Okoro, Oghenebrohie & Pedro-Itota, Osaro Osaretin

Department of Accounting

Wellspring University, Benin city, Nigeria

Mail: atugina18@gmail.com; okoro1000@gmail.com; osaropedro8@gmail.com

Abstract

The study examined foreign direct investments and capital market development in Nigeria. The importance of foreign direct investments in complementing domestic savings to promote capital accumulation for economic growth, and through its feedback effect, enhance capital market development is settled in the literature. Employing the ARDL approach to analyze the short run dynamic relationships and long run stable relationships between foreign direct investments and capital market development (as proxied by market capitalization, turnover ratio and Allshare index) in Nigeria for the period 1986 to 2021, the study finds that FDIs have positive and significant impact on capital market development in Nigeria, in the long run. Furthermore, the study notes that gross capital formation serves as catalyst to FDI inflows and capital market development. The study recommends, among others, that efforts should be intensified to revamp the Nigerian economy and rejig the capital market such that the current situation where foreign investors face exchange control difficulty in the repatriation of profits genuinely made in the course of doing business in Nigeria can be avoided.

Keywords: Foreign Direct Investment (FDI), Capital Market, Nigeria, Economic Development, Financial Markets

INTRODUCTION

Capital markets are the "engine room" of capital accumulation in many economies, as they provide a channel for capital mobilization for national economic growth and development. Mobilization of domestic and foreign capital from surplus to deficit units for investment in commercial and industrial production activities of companies and commercial organizations, so that governments can finance deficit budgets and individuals and households can obtain funds to cover their own finances consumer needs are the main objectives of capital markets. Capital markets are specialized and organized financial markets and are an important driver of economic growth in countries due to their ability to facilitate and mobilize savings - both domestic and foreign - for investment. According to Sule and Momoh (2001), the capital market is a tool through which funds are mobilized and channeled efficiently from savers to users.

Indeed, capital markets all over the world play a very important role in mobilizing financial resources to provide low-cost and long-term sources of financing to individuals, businesses and governments (Omorokunwa, 2016). In addition, capital markets offer a real opportunity to raise capital for economic growth. Undoubtedly, the positive relationship between capital accumulation and growth of the real economy has long been confirmed in economic theories (Dermirguc-Kunt and Levine, 1996). However, success in mobilizing funds to raise capital for development aid funds varies from country to country; and it depends heavily on domestic savings and foreign capital flows (Owenbugie, 2013). It is to understand this economic reality that sufficient attention is given to the development of the capital market as an institution that mobilizes money from the surplus sector to the deficit sector of the national and international economy. As noted by Bakar and Sulong (2018), capital markets enable firms to pool savings and channel household [and business] surplus into productive activities. The role of capital markets in promoting capital formation and allocation, and especially in helping governments and businesses finance long-term investments, cannot be overemphasized.

Since no nation is an island unto itself, countries, especially emerging market economies, do not rely solely on their domestic savings to finance economic growth. Capital markets are the main markets that many countries rely on to mobilize capital, especially foreign capital, for economic growth and development.

The ease of the country's capital markets and the ability to mobilize foreign capital is one of the indicators of the country's growth and development. No nation, not even the developed countries of the world, depends only on its domestic economic resources for economic growth and development. Foreign capital in the form of foreign direct investment or foreign portfolio is necessary for the development and expansion of a country's commercial, industrial and technological infrastructure.

Foreign direct investment is the share of a domestic company bought by a foreign investor outside the country's borders. The term refers to a business decision to acquire a significant part of a company (usually more than 50% stake) or a company or entity directly to gain control of its management and expand or grow its operations from a foreigner. Investors looking to make foreign direct investments generally look for companies operating in open economies that offer skilled labor, a friendly investment climate that includes ease of doing business, enforceable rules and regulations, stable management systems and good opportunities better than average growth opportunities and a reasonably good return expectation on the investment. Foreign direct investment (FDI) even exceeds foreign capital investment in the domestic economy. This often involves providing local business with management skills, technology transfer and upgrading machinery and equipment.

The characteristic of foreign direct investments is that they acquire effective control of the domestic company or at least significantly influence the decision-making process of the foreign investor.

In order for the capital market to effectively attract foreign direct investment, the market must meet certain basic requirements. Markets involve deep and broad trading of a wide variety of financial instruments, including stocks and bonds, and a large number of investors. In fact, the market must be very liquid and investors must be able to buy and sell the necessary financial instruments. Despite this, many capital markets in emerging economies such as Nigeria are not very developed. For example, the Nigerian electricity market has been associated with a number of features and characteristics that indicate its current stage of development. In some emerging and developed capital markets, it is often considered small compared to other markets. Market concentration occurs when the top ten or twenty companies on each board of an exchange control huge market capitalizations and daily transactions. Another underdeveloped feature of the Nigerian capital market is that the bond and preference share segment of the market is relatively less active (Owenbugie, 2013, p. 52).

These characteristics of the Nigerian capital market reflect poorly on its effectiveness in mobilizing much-needed foreign direct investment for economic growth and development and always have a major negative impact on the growth and development of the Nigerian capital market itself. There are several indicators of developed capital markets. One of these indicators is the stock market value ratio. The ratio reflects the size of the economy in each period. There is evidence in the literature that higher market values indicate the ability of the market to mobilize funds and spread risks effectively (Demiguel-Kunt and Levine, 1996; Adigwe, Ifeanyi and Ananwude, 2015). In an international comparison, high market value as a percentage of GDP works better as an indicator of growth prospects and capital market development, because it includes past accumulated profits and future prospects and is less cyclical (Ranjan and Zingales, 2001). Capital market liquidity is another important indicator of market development. Liquidity refers to the ease with which securities can be traded in the market without losing value. Highly liquid capital markets demonstrate a greater commitment to the long-term availability of capital and make investments more attractive and less risky. In addition, it helps facilitate transactions so that investors can easily adjust their portfolio composition (Igbinsosa and Uzunmwangho, 2019; Ajibade, 2021). Based on the foregoing, the main question of this study is to what extent the Nigerian capital market, given its current level of development, can fulfill its role in mobilizing foreign capital in the form of foreign direct investment. The role of FDI in economic growth has been studied in different ways in the literature (Adegbite and Ayadi, 2011; Ali and Hassan, 2017 and Igbinsosa and Chijuka, 2015). However, studies investigating the role of direct investment and the development of capital markets have not received much attention in the literature. In addition, Nigeria is the third largest foreign direct investment country in Africa after Egypt and Ethiopia (UNCTAD, 2018). Nigeria's net FDI inflow averaged about 1.579 to GDP during 1970-1979, while the average net inflow increased to 1.947 during 1980-1989 (FDI Statistics). According to available data, foreign direct investment in Nigeria increased from \$6.03 billion in 2010 to \$8.84 billion in 2011, a 47 percent increase. Since 2013, however, foreign direct investment in Nigeria has followed a downward trend, falling from a peak of \$8.84 billion in 2011 to \$3.06 billion in 2015. This marked a sharp 65 percent drop in four years. Since then, foreign direct investment in Nigeria has been on a downward trend, falling to only \$0.78 billion in 2018. However, as of 2019, foreign direct investment has started to increase to \$2.31 billion in 2019-2020 and \$3.31 billion in 2021. Temporary growth of 43% in 2021. However, foreign direct investment in Nigeria fell to an all-time low of \$0.19 billion in 2022. So it can

be seen that FDI in Nigeria in the last decade has been absurdly low. It is therefore necessary to study the impact of FDI on the development of capital management in Nigeria.

Several studies have examined the relationship between direct investment and economic growth on the one hand, and direct investment and capital markets on the other. Many studies focus on the relationship between FDI and economic growth or development, and only a few focuses on the role of FDI in capital market development (Ozumbe, 2012; Omodaro and Ekwe, 2016); Mbaka, 2021 and Awolumate, 2022), but conflicting findings on the role of FDI in capital market development. Some found that FDI did not have a significant long-term effect on capital market development, while others found that FDI had a significant effect on capital market development.

Given the very low FDI inflows in Nigeria in the last decade since 2013 and conflicting findings in the literature, this study seeks to examine the impact of FDI in Nigeria on the country's capital market development.

Therefore, the main research question this paper seeks to answer is: What is the impact of FDI on capital market development in Nigeria? The specific research questions to be answered are: Does FDI has a significant impact on market value? What is the ratio of FDI to market turnover? How does direct investment affect the value of traded stocks? Does direct investment affect capital market liquidity?, and what is the ratio of FDI to Allshare index? (Nigerian Stock Exchange Index).

The main objective of this study stems from the main research question as follows: To examine the impact of FDI on capital market development in Nigeria. Therefore, specific objectives are aligned with specific research questions. These are: to assess the relationship between FDI and market value; to study the relationship between FDI and market turnover, to estimate the relationship between FDI and the value of traded shares, to study the effect of FDI on capital market liquidity and to determine the relationship between FDI and Allshares Index in Nigeria from 1986 to 2022. This period is based on the need to consider the start of the structural adjustment program and the financial liberalization of the Nigerian economy between 1986 and 2021.

This paper is divided into five sections. This background to the study makes up the introduction. The next section is the literature, and it is followed by the methods. Data analysis is the fourth section. The fifth section is the findings and discussions. The summary, conclusion and recommendations conclude the paper.

LITERATURE REVIEW

The capital market is a long-term financial securities market where financial and investment products such as stocks, bonds, debentures and options are exchanged and traded at a rate determined by the forces of supply and demand (NSE, 2019). It is an organized market in which government securities and stocks, bonds and other financial instruments of publicly listed companies are traded. Stock companies (domestic and foreign) have the opportunity to raise long-term funds to finance investments and development projects. Investing in shares of listed companies gives the investor the opportunity to own a share in a public company, which represents an investment in the company (NSE, 2019). The capital market is of two types: the primary market, where governments, corporations and municipalities can obtain new capital from surplus market entities such as insurance companies, pension funds and investment funds; and the secondary market, where previously issued securities are exchanged between investors for cash to minimize investment risk and provide liquidity to investors. Foreign direct investment (FDI) involves the creation of a direct business interest

by a foreign investor in a domestic company, such as the acquisition or establishment of factories or the construction of warehouses or the purchase of buildings (OECD, 2020). And when such established companies are listed on domestic capital markets like Nigeria, their activities influence the growth and development of the market. In developing economies, direct investments play an important role in improving the functioning of capital markets, as they fill the gaps in domestic savings through foreign capital flows, create additional job opportunities and improve the skills and technology transfer of the country's residents, among other benefits. Several indicators of the development of the capital market have been presented in the literature. These include market capitalization, which is the total value of all stocks listed on the stock exchange. It represents the total monetary value (in naira) of all the listed shares of the company. Market capitalization shows the depth of the capital market. High market values are often associated with better development and efficiency of the financial system (Laki and Habibullah, 2019, Kamunde, 2012). Another measure of capital market development is market liquidity. Liquidity means that financial assets can be easily bought and sold without value. It measures the performance of capital markets. Savalho, Elim and Suliman, 2016, Foreign Securities Investments (FPI) can combine with FDI positively to capital market growth by creating liquidity and providing cheap resources. Stock value as a percentage of market value is one measure of market liquidity. The value of traded shares is the total number of traded shares (domestic and foreign) multiplied by the respective prices. The value of traded shares is measured in our context as the value of traded shares as a percentage of market value. It is an indicator of stock market or capital market liquidity. Compared to other capital markets, both market capitalization and the value of traded shares as a percentage of GDP are a useful basis for international comparisons of capital market developments.

The exchange rate is another measure of stock market development. The turnover ratio is measured by the ratio of the value of traded shares to the market value. It is generally considered an indicator of the extent of speculative activity in the stock market because it reflects the frequency of share turnover (Itzkowitz, Itzkowitz, & Robert, 2016). Some researchers, such as Baker and Stein, 2004 and Chen et al., 2013 relate the turnover ratio to investment optimism, but it can also represent a measure of risk diversification (Xu, 2003). Theoretically, it is assumed that direct investments have a significant positive effect on the development of the stock market (Gachanja and Kosimbei; 2018). Foreign investment is considered an important source of foreign capital for emerging economies and the most important contributor to the functioning of stock markets, as it not only helps improve domestic economic growth, but also promotes economic development through job creation, improved technical and administrative efficiency, and many other benefits (Rupa and Anupana, 2019).

The stock market index is another important measure of stock market development. This is a number that represents a moving average of the share prices of all listed companies and is used as a measure of how effectively the market fulfills its role as a financial intermediary. In Nigeria, the main index of the Nigerian stock market is the All-Share index. The All Share Index tracks the overall market performance of all shares listed on the Nigerian Stock Exchange Limited, including shares listed on the Growth Panel, regardless of capitalization (NGX, 2023). Theoretically, a positive and significant relationship is expected between foreign direct investments and the Allshare index, since greater foreign direct investments should positively influence the general movement of the market of all listed shares through the impact of foreign direct investments on economic growth and development. A brief review of the empirical literature is necessary here to further expand this discussion and reflect the contributions of previous researchers in this area of research.

Using impulse response vector error correction model variance decomposition, Adan and Twenebuah (2009) examined FDI and the Ghanaian stock market between 1991 and 2006. They found that the performance of the Ghanaian stock market is affected by a significant increase in foreign direct investment.

Raza, Syed, and Syed (2014) examined the relationship between foreign capital flows and market capitalization in 18 Asian countries. They used the panel least squares method and the ARDL cointegration method and performed a correlation test. They found that FDI had a significant negative relationship with stock market value in the short run. They concluded that FDI can deceive the investor to invest and advised investors to focus on whether FDI competes with the domestic market or not. Kunal and Dhami (2017) analyzed the relationship between stock market returns, exchange rates and foreign direct investment in the Indian economy using macro-level analysis and found that an increase in stock market returns would help increase the inflow of foreign direct investment in the Indian economy.

Onwukeme and Isiaka (2017) studied the relationship between market development and economic growth in Africa. Using the least square panel method of stock market size and liquidity, they found that the development of stock markets had a positive and significant effect on economic growth.

The role of foreign capital inflows in the development of Pakistan's stock market was investigated by Raza, Iqbal, Ahmed, and Ahmed (2012) using ordinary least squares. The study found that foreign direct investment and total domestic savings had a significant relationship with market value. Azeez and Obalade (2019) investigated the determinants of stock market performance in Nigeria from 1981 to 2017. The study revealed that a strong banking sector, stock market liquidity and direct investments are determinants of stock market development in both the short and long term. .

Similarly, Igbinosa (2015) studied the impact of the development of the financial system on the economic development of developing countries using the example of Nigeria. The study applied the ARDL procedure to estimate the error correction model. The study found, among other things, that there is a positive relationship between the value of transactions in the Nigerian stock market and capital income (proxy for economic development) both in the long and short term, but this relationship is statistically significant only in the short run.

Iriobe, Obamuyi and Abayomi (2018) analyzed the impact of FDI on capital market development in Nigeria from 2007 to 2017 and used an autoregressive distributed lag model and found that the flow of FDI is a catalyst for the outcome. of the Nigerian capital market.

Mbaka (2021) investigated foreign capital flows and stock market returns in selected African countries from 1990 to 2018 using an autoregressive distribution lag method. The results showed that FDI and FPI have a significant positive relationship with the market capitalization of African countries, while FPI had a significant negative and FDI a significant positive effect on the development of the African bond market.

Igbinosa (2023) investigated foreign investment and stock market performance in selected sub-Saharan countries. Using the panel fully adjusted standard values of FDI, FDI and market capitalization and GDP, the study found that both FDI and FDI had a significant negative impact on the performance of sub-Saharan African stock markets. stock market

The effect of FDI on capital market value in Nigeria from 1986 to 2020 was investigated by Oke, Adogoke and Akosile (2023) using ordinary least squares and error correction model and found that all variables except FDI had a positive/direct relationship. in market value.

Omodaro and Ekwa (2016) investigated FDI and stock market performance in Nigeria using multiple regression analysis. The study found that FDI has a negative and insignificant effect on the macro variables used to examine the performance of the Nigerian stock market. Regarding the theoretical overview, we argue that there are several relevant theories in the study of capital flows and the development of stock markets, some of which include positive feedback theory. Positive feedback theory explains the relationship between returns and net capital flows. According to the theory, capital inflows and returns are positively correlated, and a positive price response to capital market liberalization occurs when the foreign investor acts as a positive feedback agent (Choe, Bong-Chan, and Rane, 1999; Bohl and Siklos, 2018). In addition to Eugene Fama's efficient market hypothesis, which was popularized in 1970 but revised in 1991, another theory reflected in this research is the base expansion hypothesis. The Base Broadening Hypothesis (BBH) states that foreign capital flows, having widened the investment base for foreign investors, affect the development of emerging stock markets through price increases and reduce expected returns (Clark and Barke, 1996).

METHODS

Based on the theoretical and empirical reviews, the model adopted for this study is specified below:

$$\text{MCAP} = f(\text{FDI}, \text{GCF}, \text{GDP}, \text{INTR}) \dots\dots\dots 1)$$

$$\text{TOR} = f(\text{FDI}, \text{GCF}, \text{GDP}, \text{INTR}) \dots\dots\dots 2)$$

$$\text{ASI} = f(\text{FDI}, \text{CEF}, \text{GDP}, \text{INTR}) \dots\dots\dots 3)$$

The econometric forms of the above models are as follow:

$$\text{MCAP}_t = \beta_0 + \beta_1 \text{FDI}_t + \beta_2 \text{GCF}_t + \beta_3 \text{GDP}_t + \beta_4 \text{INTR}_t + u_t \dots\dots\dots 4)$$

$$\text{TOR}_t = Z_0 + Z_1 \text{FDI}_t + Z_2 \text{GCF}_t + Z_3 \text{GDP}_t + Z_4 \text{INTR}_t + u_t \dots\dots\dots 5)$$

$$\text{ASI}_t = W_0 + W_1 \text{FDI}_t + W_2 \text{GCF} + W_3 \text{GDP} + W_4 \text{INTR} + u_t \dots\dots\dots 6)$$

Where,

MCAP_t = Market capitalization of the Nigerian capital market in time, t

FDI_t = Foreign direct investment flows to Nigeria in time t

GCF_t = Gross capital formation in time t

GDP_t = Gross domestic product at 2020 market price in time t

TOR_t = Total value of stocks traded in time t

ASI_t = Allshare index in time t

INTR_t = Interest rate in time t

u_t = error term

$\beta_0 - \beta_4; Z_0 - Z_4; W_0 - W_4$ – the parameters to be estimated

The a priori expectations of the models are:

$$B_1 - \beta_3 > 0, \beta_4 > < 0 (Z_1 - Z_3 > 0, Z_3 > < 0; W_1 - W_3 > 0, W_4 > < 0)$$

The Augmented Dickey Fuller Unit roots test was first employed to test for stationarity of the data, a procedure to avoid spurious regression. The Autoregressive Distributed Lags (ARDL) approach was used to conduct the error correction mechanism and also tested for cointegration in conjunction with the Johansen cointegration test. The F-bounds test procedures also provided a confirmation of the appropriate use of a dynamic framework for the models estimated. The Error Correction method was used to estimate the short run and long run relationships between the dependent variables and the independent variables of the models.

DATA ANALYSIS AND RESULTS

To avoid the effect of large values, the natural logarithm of the variables were taken thus making their coefficients elasticity values with respect to the dependent variable. The the unit roots tests were conducted to ensure that the variables are stationary at the same level of analysis. Table 1 below contains the Augmented Dickey Fuller Unit roots test results.

Table 1 Unit Roots Test

Variables	LEVEL			Variables	FIRST DIFFERNCE		
	Critical Value	Test statistic	Remark		Critical Value	Test statistic	Remark
MCAP	-2.9484	-2.51651	Non-stationary	MCAP	2.9511	4.6679	Stationary
TOR	-2.9484	-2.1563	Non-Stationary	TOR	2.9604	5.8873	Stationary
ASI	-2.9484	-1.4035	Non-Stationary	ASI	2.9540	6.3228	Stationary
FDI	-2.9484	-5.9387	Stationary	FDI	2.9511	9.7961	Stationary
GCF	-2.9484	-2.51651	Non-Stationary	GCF	2.9640	4.2069	Stationary
GDP	-2.9511	-0.3113	Non-Stationary	GDP	2.9511	3.1775	Stationary
INTR	-2.9484	-3.2488	Stationary	INTR	2.9511	8.2118	Stationary

Source: Eview 17.0 comutation by the author, August, 2023

The results show that all the variables were not stationary at level but became stationary at first difference, and thus were integrated of order one, I(1). Since the variables were integrated, we tested for cointegration. The Autoregressive Distributed Lags (ARDL) approach to cointegration was employed.

Shortrun ECM Results – FDI And Market Capitalization (MCAP)

Table 2 below shows the shortrun error correction (dynamic analysis) results showing the relationship between FDI and Market capitalization – the proxy variable for stock market development.

Table 2: Short run ARDL ECM Regression Results
 Dep. Variable LMCAP

Variables	Coefficients	t-statistic	Probability
D(LFDI)	0.010296	0.4303	0.6727
D(LFDI(-1))	-0.1435	-4.3191	0.0005*
D(LFDI(-2))	-0.04728	-2.0457	0.0576**
D(LGCF)	-0.4631	-2.1196	0.0500**
D(LGDP)	0.9848	0.9447	0.3589
D(LGDP(-1))	-0.7483	-0.6697	0.5126
D(LGDP(-2))	1.4048	1.2723	0.2214
D(LGDP(-3))	3.3182	3.0847	0.0071*
D(LINTR)	0.0684	0.4719	0.6434
D(LINTR(-1))	-0.2619	-1.7880	0.0927
CointEq(-1)*	-0.6651	-7.7267	0.0000*
R-squared	0.7874		
Ad. R-squared	0.6861		
Log likelihood	18.7537		
DW stat	1.53322		

Source: EViews 11.0 computation executed by the author, August, 2023

The above short run dynamic analysis results show that the current effect of FDI on market capitalization is positive but not significant. However, FDI has significant delayed effects (first and second lags impact) on market capitalization and the effects are both negative. Thus, FDI has delayed significant negative impact on market capitalization in Nigeria in the short run. Furthermore, the results show that current gross capital formation has significant negative influence on market capitalization in Nigeria. In the same vein, interest rate has delayed (first lag) significant negative influence on market capitalization. However, GDP has a delayed (third year lag) positive and significant impact on market capitalization. The error correction term for the short run impact of FDI on market capitalization in Nigeria meets the

required criteria. It passes the significant test at 1%, it is negative and lies between zero and one. The value is -0.67. This implies that any short term deviation in MCAP in the short run equilibrium will be restored in the long run. The speed of adjustment is high and the adjustment is completed in the first period at 67 percent.

Short run ECM Results – FDI and Capitalization Market Liquidity-Turnover Ratio (TOR)

Table 3 below shows the short run error correction model results of the relationship between FDI and turnover ratio– the proxy variable for stock market liquidity.

Table 3: Short run ARDL ECM Regression Results
 Dep. Variable LTOR

Variables	Coefficients	t-stat.	Probability		
D(LFDI)	0.0373	0.6335	0.5383		
D(LFDI(-1))	-0.4215	-4.4982	0.0007*		
D(LFDI(-2))	-0.2315	-2.9452	0.0123*		
D(LFDI(-3))	-0.0829	-1.5962	0.1364		
D(LGCF)	-0.6536	-1.0802	0.3013		
D(LGCF(-1))	-1.3988	-2.2933	0.0407**		
D(LGCF(-2))	-0.8596	-1.3273	0.2091		
D(LGCF(-3))	-0.8881	-1.3102	0.2147		
D(LGDP)	2.7325	1.0248	0.3257		
D(LGDP(-1))	-2.2385	-0.8027	0.4377		
D(LGDP(-2))	3.0426	1.0667	0.3071		
D(LGDP(-3))	7.3822	2.6874	0.0198**		
D(LINTR)	0.2136	0.6158	0.5495		
D(LINTR(-1))	-0.8523	-2.3295	0.038**		
CointEq(-1)*	-0.5880	=5.3650	0.0002*		
R-squared	0.6971				
Ad. R-squared	0.4477				
Log likelihood	-5.7394				
DW stat	1.8774				

Source: EViews 11.0 computation executed by the author, August, 2023

KEY: * and ** indicate statistical significance at 1% and 5% level respectively.

The above short run dynamic analysis results show that the current effect of FDI on turnover ratio (LTOR) – the proxy for capitalization market liquidity is positive but not significant. However, FDI has delayed effects (first and second lags) impact on market liquidity and the effects are both negative. Thus, FDI has delayed significant negative impact on turnover ratio (market liquidity) in Nigeria in the short run. Furthermore, the results also show gross capital formation has delayed (first lag), significant and negative influence on stock market liquidity in Nigeria. Similarly, gross domestic product (LGDP) has delayed (third year lag) significant and negative influence on capital market liquidity. Also, interest rate (LINTR) has a delayed (first lag) negative and significant impact on stock market liquidity. The error correction term for the short run impact of FDI on capitalization market liquidity in Nigeria meets the required criteria. It passes the significant test at 1%, it is negative and lies between zero and one. The value is -0.59. This implies that any short-term deviation in market liquidity in the short run equilibrium, will be restored in the long run. The speed of adjustment is 0.59 and the adjustment is completed in the first period at about 60 percent.

Short run ECM Results – FDI and Allshare index (Capitalization Market development) (ASI)

Table 4 below shows the short run or dynamic error correction mechanism results of the relationship between FDI and Allshare Index (LASI) – another proxy for stock market development.

Table 4: Short run ARDL ECM Regression Results
 Dep. Variable LASI

Variables	Coefficients	t-stat.	Probability		
D(LFDI)	0.0284	1.1628	0.2631		
D(LFDI(-1))	0.2337	-5.2887	0.0001*		
D(LFDI(-2))	-0.1161	-3.3654	0.0042*		
D(LFDI(-3))	-0.0366	-1.6735	0.1149		
D(LGCF)	-0.6094	-2.8643	0.0118*		
D(LGDP)	1.2550	1.1106	0.2842		
D(LGDP(-1))	-0.8247	-0.7292	0.4771		
D(LGDP(-2))	2.1407	1.8864	0.0788		
D(LGDP(-3))	3.9892	3.4692	0.0034*		
D(LINTR)	0.2700	1.8029	0.0915		
D(LINTR(-1))	-0.5699	-3.4107	0.0039*		
CointEq(-1)*	-0.6861	-8.2771	0.0000*		
R-squared	0.82				
Ad. R-squared	0.72				
Log likelihood	19.5983				
DW stat	1.9166				

Source: EViews 11.0 computation executed by the author, August, 2023
 KEY: * indicates statistical significance at 1% level.

The above short run dynamic analysis results show that the current effect of FDI on Allshare index is positive but not significant. However, FDI has significant delayed effects (first and second lags impact) on stock market index and the effects are positive and negative respectively. Thus, FDI has delayed significant positive and negative impact respectively on stock market index in the short run. Furthermore, the results show that current gross capital formation has significant negative influence on Allshare index in Nigeria. In the same vein, interest rate (LINTR) has delayed (first year lag) significant negative effect on stock market index. The error correction term for the short run impact of FDI on stock market index in Nigeria meets the required criteria. It is significant at 1%, negative and lies between zero and one. The value is -0.69. This implies that any short term deviation in stock market index in the short run equilibrium will be restored in the long run. The speed of adjustment is high and the adjustment is completed in the first period at 69 percent.

Long Run Relationships

The long run behaviour of the capital market to FDI inflows is the most important aspect of the study. The long run or stable level results were also estimated by means of ARDL framework. Table 3.5 below shows the long run cointegration results and the F-Bounds test that follows on table 3.6.

Table 5: Long run Impact of FDI on Capital Market Development (LMCAP)

Variables	Coefficients	t-statistic	Probability
LFDI	0.3714	3.8726	0.0013*
LGCF	1.5143	11.6618	0.0000*
LGDP	0.1474	0.3447	0.7348
LINTR	0.6730	1.5787	0.1340
C	-8.6364	-2.4672	0.0253

Source: EViews 11.0 computation executed by the author, August, 2023
 KEY: * indicates statistical significance at 1% level.

The results on table 5 above show that foreign direct investments (FDI) has significant positive effect on market capitalization in the long run. This demonstrates that FDI has significant positive effect on stock market development in Nigeria in the long run. Similarly, the control variables, gross capital formation (GCF), gross domestic product (GDP) and interest rate all have positive effect on market capitalization. However, only gross capital formation (GCF) has a significant effect on market capitalization, while the effects of both GDP and Interest rate are not statistically significant. The implication is that Increased FDI inflows boost market capitalization by 37% in Nigeria. Thus, improved FDI flows to Nigeria represent significant positive boost to capital market development in Nigeria. Also, the influence of capital formation on FDI inflows helps to improve capital market development.

Long run Analyses of the effect of FDI on Turnover ratio and All Share index

Table 6 below shows the long run cointegration results of the effects of FDI on turnover ratio and Allshare index and the F-Bounds tests that follow on table;

TABLE 6: Longrun Effects of FDI on Capital Market Liquidity (LTOR) and All Share Index (LASI).

Variables	Dep. Variable: LTOR		Dep. Variable: LASI	
	Coefficients	Probability	Coefficients	Probability
LFDI	0.8100	0.0506	0.5220	0.0003*
LGCF	2.5784	0.0003	1.3396	0.0000*
LGDP	-3.1819	0.1169	-1.9130	0.0002*
LINTR	1.9338	0.1995	1.6815	0.0014*
C	11.5038	0.4700	13.5315	0.0009

Source: EViews 11.0 computation executed by the author, August, 2023
 KEY: * indicates statistical significance at 1% level.

The results on table 6 above show that foreign direct investments (LFDI) have significant positive effect on turnover ratio (our proxy for stock market liquidity) in the long run. This demonstrates that LFDI has significant positive effect on stock market liquidity in Nigeria. Similarly, the control variables, gross capital formation (LGCF) and interest rate (LINTR) have positive and significant effects on stock market development. However, gross domestic product (LGDP) has a significant negative effect on stock market index. The implication is that Increased FDI inflows boost stock market development by 52% in Nigeria. Thus, improved FDI flows to Nigeria represent significant positive boost to allshare index, our other proxy, for capital market development in Nigeria.

Also, the influence of capital formation on FDI inflows helps to substantially improve stock market liquidity.

From the second portion of the same table 6 above, the results show that foreign direct investments (LFDI) have significant positive effect on Allshare index (another proxy for capital market development), in the long run. This demonstrates that LFDI has significant positive effect on stock market development in Nigeria in the long run. Similarly, the control variables, gross capital formation (LGCF) and interest rate (LINTR) have positive and significant effects on stock market index. However, gross domestic product (LGDP) has a significant negative effect on stock market liquidity. The implication is that Increased FDI inflows boost stock market development by 52% in Nigeria. Thus, improved FDI flows to Nigeria represent significant positive boost to capital market development in Nigeria.

Also, the influence of gross capital formation on FDI inflows helps to boost capital market development significantly.

F-Bound Test

The above long run autoregressive procedures also provide a test for the confirmation of the use of a dynamic framework for the models estimated. Table 3.7 shows the results of the associated F-Bounds Tests.

Table 7: F-Bound Test Null hypothesis: No levels relationship

Test Statistic	Model	Value	Significance	I(O)	I(1)
F-statistic	MCAP	7.5812	5%	2.56	3.49
	LASI	8.5638	5%	2.56	3.49
	LTOR	3.3862	5%	2.56	3.49

The critical F-statistic value for the lower and upper bounds is used for testing the results. At the 5% significant level, the test statistic value of 7.5812 is greater than the lower I(O) and upper bound I(1) values of 2.56 and 3.49 respectively for the Market capitalization model. Thus, the null hypothesis of the Bound Test of no long run relationship between FDI and Capital market development and all independent variables is rejected Therefore, Foreign direct investments and market capitalization (capital market development) move together in the long run.

In testing the Allshare index model at 5% level of significance, the test statistic value of 8.56 is also greater than both the lower and upper bound values of 2.56 and 3.49 respectively. Therefore, the null hypothesis of no level relationship is rejected while the alternate is accepted that significant relationships exist between FDI and Allshare index and the control variables.

Finally, the F-bounds test for the turnover ratio model indicates that the test statistic at 5% level of significance of 3.39 lies between the lower and upper bounds thus suggesting a grey area of no clear-cut decision.

However further test by means of Johansen cointegration test (not shown here) shows the existence of at least two cointegration equations among the TOR variables, hence the variables are cointegrated indicating the existence of longrun relationships among the deperent and independent variables of the turn over ratio model.

Test of Hypotheses of the Study

From the empirical analyses on tables 3.7 and 3.9 of the long run results of LMCAP, LTOR and LASI with LFDI, we find that Foreign direct investments (LFDI) are significantly related to market capitalization (LMCAP) at 1% significant level (t-stat is 3.87 and p-value is 0.0013), to turnover ratio (LTOR) at 5% (t-stat is 2.172 and p-value is 0.0506) and to Allshare index (LASI) at 1% significant levels (t-stat is 4.75 and probability value of 0.0003) respectively. Hence, the null hypotheses of the study that there are no significant relationships are rejected. Therefore, we conclude that foreign direct investments have significant relationships with market capitalization (our proxy for capital market development), turnover ratio (the proxy for stock market liquidity) and Allshare index (the Nigerian stock market index) respectively.

Findings and Discussions

The study employed autoregressive distributed lag (ARDL) approach to analyze three models of capital market development and foreign direct investments by means of the error correction mechanism (ECM) for the period 1986 to 2021. The short run and long run relationships between market capitalization (proxy for capital market development), Allshare index (the index of Nigerian Exchange limited, NGX) another proxy for Nigerian capital

market development, and turnover ratio (proxy for capital market liquidity). Based on the empirical analyses and the test of research hypotheses, the following findings were made.

FDI has delayed significant negative impact on market capitalization in Nigeria in the short run and a significant positive effect on stock market development in the long run. This later finding agree with theory and is in agreement with the works of Mbaka, 2021 that FDI and market capitalization are significantly and positively related in African stock markets; and Rasheed, Rilwan and Yetunde, 2017 that foreign capital inflows had significant relationship with stock market development in Nigeria, and Adam and Tweneboah (2008) who found that Ghana stock market development is influenced by a significant increase in FDI but our findings contradict the findings of Raza, Syed and Syed (2014) who found that foreign capital flows have negative relationship with stock market capitalization in Asian countries. Gross capital formation has significant positive impact on market capitalization. This suggests that increases in gross capital formation serve as catalyst for improvement in market capitalization via the direct positive effect of FDI flows to the economy.

FDI has delayed significant negative impact on turnover ratio in Nigeria in the short run. Foreign direct investments (LFDI) have significant positive effect on turnover ratio (our proxy for stock market liquidity) in the long run. This finding is line with theoretical expectation but contrary to the finding of Mika'ilu, and Yunusa (2018) that FDI had positive but statistically insignificant impact on stock market development. Gross capital formation is positively and significantly related to turnover ratio. Increases in gross capital formation have catalytic effect on market liquidity throughs direct influence on FDI inflows.

FDI has delayed significant positive and negative impact on stock market index (Allshare index) in Nigeria in the short run. Also, FDI has significant positive effect on stock market index (our other proxy for capital market development in Nigeria) in the long run. Again, this finding is conformity with theoretical expectation and agrees with previous findings. It however disavows the findings of Omodero and Ekwe (2016) who did not find the relationship tween FDI and stock market performance significant. Gross capital formation is positively related to Allshare index. This implies that increases in gross capital formation are big boost to capital market development through its positive impact on FDI inflows to the market. Similarly, interest rate is positively and significantly related to Allshare index; an indication that interest rate changes tend to boost activities in the capital market and a major determinant of trade in the market.

In this study, the effect of FDI is not significant except on Allshare index where the result is negative and statistically significant. The results show that the state of the economy does not favourably impact the growth of the capital market in Nigeria.

CONCLUSION AND RECOMMENDATIONS

We used the error correction method to analyze the short-run dynamic relationships and long-run stable relationships between FDI and capital market development in Nigeria using secondary data from the CBN Statistical Bulletin and the World Bank database for the period 1986-2021. An initial unit root test was performed to examine the existence of long-run relationships between the direct investment variable and market value, turnover ratio and Allshare index variables, and three control variables. An autoregressive spaced lag procedure was used to perform the cointegration analysis. We used the F-limits test to confirm the presence of cointegration between the independent and dependent variables of the three models and Johansen's cointegration test in one ambiguous case. The study concluded that, in the long run, FDI has a significant impact on the development of Nigeria's capital markets

close to stock market value, turnover ratio and Allshare index. Based on the results of this study, the following recommendations are made:

The Nigerian government must take decisive steps to remove all institutional and structural bottlenecks that limit the ease of doing business in Nigeria in order to attract and retain foreign investment in the country. Since total capital formation is positively and significantly related to stock market development, adequate measures to promote capital formation in the economy are needed to promote capital market development in Nigeria. In addition, the need to promote the growth of the national economy resulting from direct investment and the development of capital markets cannot be overemphasized. In order to increase the growth of foreign direct investment and prevent the departure of hitherto successful foreign companies from the country, policy makers must strengthen efforts to reform the Nigerian economy and restructure the capital market so that foreign investors face the current ugly and embarrassing situation in Nigeria.

REFERENCES

- Adam, M. A and Tweneboah, G. (2008). Foreign direct investment and stock market development: Ghana's evidence. *International Research Journal of Finance and Economics*, 26, 178-185.
- Adigwe, P., Nwanna, I. O. & Ananwude, A. (2015). Stock market development and economic growth in Nigeria: An empirical examination (1985-2014). *Journal of Policy and Development Studies*, 9(5), 141-154.
- Ajibade, S. A. (2021). Stock market development and industrial growth in Nigeria. Unpublished *M.Sc. thesis*, School of postgraduate studies, University of Benin, Nigeria
- Awolumate, T. O. (2022). Foreign direct investment and economic growth in Nigeria. Unpublished *M. Sc. Thesis*, College of Business and Management Studies, Igbinedion University Okada.
- Azeez, B. A. and Obalade, A. A. (2019). Macroeconomic determinants of stock market draw in Nigeria (1951–2017). *Hcta University Banubius*, 15 (1), 203–216.
- Baker, H. O. & Sulong, Z. (2018). The role of financial sector on economic growth: Theoretical and empirical literature reviews analysis. *Journal of Global Economics*, 6(40), 1-6.
- Bohl, M. T. & Siklos, P. S. (2008). Empirical evidence on feedback trading in mature and emerging stock markets. *Applied Financial Economics*, 18(17), 1379-1389.
- Chen, M. P., Chen, P. F. & Lee, C. C. (2013). Asymmetric effects of investor sentiment on industry stock returns; Panel data evidence. *Emerging Markets Review*, 14, 35-54.
- Demirguc-Kunt, A. & Levine, R. (1996). Stock market, corporate finance and economic growth: An overview. *The World Bank Review*, 223-339.
- Fama, E. (191). Efficient capital market II: A review of theory and empirical work. *Journal of Finance*, 465, 1575-1617.

- Fama, E. (1970). Efficient capital markets: A review of theory and empirical work. *Journal of Finance*, 25(2), 73-84.
- Igbinosa, E. T. (2023). Foreign investments and stock market performance in selected sub-Saharan African counties. An unpublished *M.Sc. Thesis*. School of Postgraduate Studies, University of Benin, Nigeria.
- Igbinosa, S. O. & Uhunmwangho, M. (2019). Macroeconomic aggregates and stock market liquidity: Evidence from African stock markets. *International Journal of Economics and Financial Management*. 4(10), 2545-2566.
- Igbinosa, S. O. (2015). Financing economic development in developing nations: the role of the financial system. *Journal of International Finance and Economics*, 15(3), 103-116.
- Igbinosa, S. O. and Chijuka, Ify Michael (2014). 'Stock market volatility and economic growth: An empirical comparison between Nigeria and the United Kingdom', *Multi-Disciplinary Journal of Research and Development Perspectives*, 3 (2), December, 72-81.
- Iriobe, G. O., Obamuyi, T. M. and Abayomi, M. A. (2018), Foreign Portfolio Equity Investment and the performance of the Nigeria stock market. A sectoral distribution analysis. *International Business and Management*, 16 (1), 29–38.
- Itzkowitz, J. Itzkowitz, J. & Rothbart, S. (2016). ABCs of trading: Behavioral biases affect stock turnover and value. *Review of Finance*, 20(2), 663-692.
- Kamunde, L. K. (2012). Analysis of the relation between market capitalization and stock market indices at NSE. *Doctoral dissertation*, University of Nairobi.
- Kosimbei, G. (2018). Dynamic linkage between foreign equity flows and stock market returns at the Nairobi Securities Exchange. *Strategic Journal of Business & Change Management*, 5(3), 201-215.
- Kunal, K. & Phani, B. V. (2017). FDi inflows, stock market performance and exchange rate: Indian Scenario. *International Journal of Accounting and Financial Reporting* 7(2), 148-171.
- Law, S. H. & Habibullah, M. S. (2009). The determinants of financial development: Institutions, openness and financial liberalization. *South African Journal of Economics*, 77(1), 45-58.
- Mbaka, B.(2021). Foreign capital inflows and stock market performance in selected Africa countries. An unpublished *M.Sc. thesis*, School of postgraduate studies, University of Benin.

- Mika'ilu, A. & Yunusa, U. D. (2018). Foreign direct investment and stock market development in Nigeria: Evidence from ARDL bound test approach to cointegration. *IOSR Journal of Economics and Finance*, 9(1), 79-85.
- Oke, M. O.; Adegote, T. D. and Akosile, M. O. (2023) Impact of Foreign Direct Investment on Capital Market Capitalization in Nigeria. *Nigerian Journal of Banking and Financial Issues (NJBFI)* 9 (1), 21–31.
- Oke, M. O.; Adegote, T. D. and Akosile, M. O. (2023) Impact of Foreign Direct Investment on Capital Market Capitalization in Nigeria. *Nigerian Journal of Banking and Financial Issues (NJBFI)* 9 (1), 21–31.
- Omodero, C. O.& Ekwe, M. C. (2016). Impact of foreign direct investment on the stock market performances. *Applied Finance and Accounting*, 3(1), 36-48.
- Omorokunwa, G. O. (2018). Stock market performance and foreign capital flows in Nigeria. *Amity Journal of Finance*, 3(2), 24-41.
- Onwukeme, O. O. & Isiaka, A. R. (2017). Stock market and economy growth: Evidence from Africa. *Euro-Africa Journal of Economics and Finance*, 5(1), 23-44
- Owenvbiugie, E. E. (2013). The Nigerian capital market and Nigerian industrial growth. Unpublished M. Sc thesis presented to School of postgraduate studies, University of Benin, Nigeria.
- Rajan, R. G. & Zingales, L. (2001). The great reversals: The politics of financial development in the twentieth century (Working Paper No. 8178). NBER working paper.
- Raza, A., Syed, A & Syed, T. J. (2014). Foreign capital inflows, economic growth and stock market capitalization in Asian countries: An ARDL bound testing approach. *Quality and Quantity*, 48(1), 375-385
- United Nations Conference on trade and development, UNCTAD (2018). World investment report: investment and new industrial policies. <https://unctad.org/webflyer/world-investment-report-2018>
- World Bank (2023). International Financial Markets Statistics. <https://data.worldbank.org/indicator>
- Xu, Y. & Exchange, s. S. (2003). Diversification in Chinese stock market. *School of Management*. Retrieved from <https://personal.utdallas.edu/~yexiaoxu/DivCstk.pdf>

APPENDIX - REGRESSION OUTPUT OF ARDL PROCEDURES

Dependent Variable: D(LMCAP)
 Selected Model: ARDL(1, 3, 1, 4, 2)
 Case 2: Restricted Constant and No Trend
 Date: 08/31/23 Time: 07:54
 Sample: 1986 2021
 Included observations: 32

ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LFDI)	0.010296	0.023929	0.430288	0.6727
D(LFDI(-1))	-0.143512	0.033228	-4.319059	0.0005
D(LFDI(-2))	-0.047277	0.023110	-2.045695	0.0576
D(LGCF)	-0.463148	0.218511	-2.119562	0.0500
D(LGDP)	0.984806	1.042464	0.944690	0.3589
D(LGDP(-1))	-0.748345	1.117434	-0.669700	0.5126
D(LGDP(-2))	1.404795	1.104130	1.272309	0.2214
D(LGDP(-3))	3.318183	1.075674	3.084748	0.0071
D(LINTR)	0.068381	0.144914	0.471872	0.6434
D(LINTR(-1))	-0.261876	0.146459	-1.788047	0.0927
CointEq(-1)*	-0.665087	0.086076	-7.726714	0.0000
R-squared	0.787371	Mean dependent var		0.253040
Adjusted R-squared	0.686119	S.D. dependent var		0.296705
S.E. of regression	0.166229	Akaike info criterion		-0.484609
Sum squared resid	0.580277	Schwarz criterion		0.019238
Log likelihood	18.75374	Hannan-Quinn criter.		-0.317598
Durbin-Watson stat	1.532208			

* p-value incompatible with t-Bounds distribution.

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	7.581220	10%	2.2	3.09
K	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

ARDL Long Run Form and Bounds Test
 Dependent Variable: D(LMCAP)
 Selected Model: ARDL(1, 3, 1, 4, 2)
 Case 2: Restricted Constant and No Trend
 Date: 08/31/23 Time: 08:13
 Sample: 1986 2021
 Included observations: 32

Conditional Error Correction Regression				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5.743931	2.914101	-1.971082	0.0663
LMCAP(-1)*	-0.665087	0.140704	-4.726854	0.0002

LFDI(-1)	0.247026	0.066720	3.702423	0.0019
LGCF(-1)	1.007134	0.200848	5.014402	0.0001
LGDP(-1)	0.098011	0.293433	0.334016	0.7427
LINTR(-1)	0.447586	0.251575	1.779136	0.0942
D(LFDI)	0.010296	0.032036	0.321400	0.7521
D(LFDI(-1))	-0.143512	0.046687	-3.073885	0.0073
D(LFDI(-2))	-0.047277	0.030053	-1.573137	0.1353
D(LGCF)	-0.463148	0.344192	-1.345608	0.1972
D(LGDP)	0.984806	1.427085	0.690082	0.5000
D(LGDP(-1))	-0.748345	1.313220	-0.569855	0.5767
D(LGDP(-2))	1.404795	1.357388	1.034925	0.3161
D(LGDP(-3))	3.318183	1.401110	2.368253	0.0308
D(LINTR)	0.068381	0.199544	0.342686	0.7363
D(LINTR(-1))	-0.261876	0.206436	-1.268558	0.2227

* p-value incompatible with t-Bounds distribution.

Levels Equation
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LFDI	0.371418	0.095910	3.872588	0.0013
LGCF	1.514288	0.129850	11.66181	0.0000
LGDP	0.147366	0.427574	0.344657	0.7348
LINTR	0.672973	0.426296	1.578652	0.1340
C	-8.636356	3.500528	-2.467158	0.0253

$$EC = LMCAP - (0.3714*LFDI + 1.5143*LGCF + 0.1474*LGDP + 0.6730*LINTR - 8.6364)$$

F-Bounds Test Null Hypothesis: No levels relationship

Test Statistic	Value	Signif.	I(0)	I(1)
Asymptotic: n=1000				
F-statistic	7.581220	10%	2.2	3.09
K	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37
Finite Sample: n=35				
Actual Sample Size	32	10%	2.46	3.46
		5%	2.947	4.088
		1%	4.093	5.532
Finite Sample: n=30				
		10%	2.525	3.56
		5%	3.058	4.223
		1%	4.28	5.84

Date: 08/30/23 Time: 01:18
 Sample (adjusted): 1988 2021
 Included observations: 34 after adjustments
 Trend assumption: Linear deterministic trend
 Series: LMCAP LFDI LGCF LGDP LINTR LASI LTOR
 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 *	0.857945	189.7288	125.6154	0.0000
At most 1 *	0.789314	123.3764	95.75366	0.0002
At most 2 *	0.631872	70.42524	69.81889	0.0447
At most 3	0.399596	36.44823	47.85613	0.3741
At most 4	0.288187	19.10305	29.79707	0.4855
At most 5	0.192054	7.545078	15.49471	0.5152
At most 6	0.008616	0.294220	3.841466	0.5875

Trace test indicates 3 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 *	0.857945	66.35234	46.23142	0.0001
At most 1 *	0.789314	52.95117	40.07757	0.0011
At most 2 *	0.631872	33.97702	33.87687	0.0487
At most 3	0.399596	17.34518	27.58434	0.5505
At most 4	0.288187	11.55797	21.13162	0.5916
At most 5	0.192054	7.250858	14.26460	0.4599
At most 6	0.008616	0.294220	3.841466	0.5875