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Analysis of the Effect of Cross Border Investments on the Nigerian Capital Market

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Abstract:

This dissertation discussed the Analysis of effect of Cross Border Investment on the Nigeria Capital Market between the period 1980-2018. In order to realize the research objectives, secondary data on Market capitalization of the Nigeria Capital Market obtained from CBN Statistical Bulletin, International Monetary Fund (IMF) and National Bureau of Statistics (NBS) were used to investigate the research. The Error Correction Econometrics Model was used in the estimation using Stata 15 Econometrics package. The findings of this research showed that a positive and significant relationship exists between Market Capitalization in the Nigerian Capital Market and Foreign Portfolio Investment while a negative and significant relationship exists between market capitalization, degree of openness and exchange rate. A change in Foreign Portfolio Investment will cause an increase in Market Capitalization and a change in degree of openness of the economy and exchange rate will cause a decrease in Market Capitalization. Based on these findings, the study proffers the following recommendations: that intensive effort should be made by policy makers to create conducive environment that will attract more foreign investment into our capital market which will increase the level of investment and economic growth in Nigeria. Monetary and Fiscal policy measures that will keep the naira exchange rate low and stabilise the financial sector should be instituted to boost market capitalization and investment in Nigeria. Government policies on trade liberalization should be regulated to achieve favourable terms of trade that will enhance growth.

Keywords: Interest rate, exchange rate and the degree of openness of Market

1. Introduction

1.1. Background to the Study

Over the past years, globalization has brought several changes in business activities of the firms. It provides a way to operate business activities all around the world and this gives rise to uninhibited trade and financial flow. There are several organizations, which serve their services and products in different countries for enhancing profit and increasing market share. Such global business activities are responsible for developing worldwide financial market, which includes cross border transactions and investment. But at the same time, the unforeseen nature of financial market of countries has reasonably affected the investments, which is made by companies of other countries (Portes& Rey, 2005). The volatility of financial markets effects firms' ability to generate greater returns from their investments.

Financial market volatility can be defined as the movement or variation in asset price over time. Due to this variation, the value of investments also tends to increase and decrease, which is responsible for affecting the returns of firm in other countries. At present, the financial market has become more volatile than ever and it is because this becomes essential for firms to manage their investment globally (Satchell & Knight, 2011).

In addition, cross border investments have also increased in compare to past time and this makes it difficult for businesses to ensure the stable returns from the global investment activities. The reasons are several for increasing volatility in financial market and cross border investments accordingly, but the major reason is globalization (Beltratti&Morana, 2006). Due to this, domestic and international financial markets are becoming more connected than ever and this relationship creates vulnerability in the returns of cross-border investments.

Due to close connection of national and international market, companies invest capital in other country's economy and sudden withdrawal of money by them leads to the shortage of liquidity, which may be responsible for creating volatility. This decline in country's liquidity position plays a key role in affecting the condition of economy and businesses as well. Lack of sufficient liquidity disables businesses to get adequate funds for running their operations in effective manner that affects their growth (Bernardo & Welch, 2004). Businesses play a crucial role to manage the economic conditions of a country and it is because their negative growth hinders country's growth. A country with negative growth rate will not be able to retain and attract existing and potential foreign investors respectively. This increases the money withdrawal activities and makes the financial market volatile in terms of global investment (Di Giovanni, 2005). In this way, less liquidity leads to enhance financial market volatility and decrease the value of investment.

The legal environment of a country also influences a country's economic conditions and creates volatility in financial markets. Laws and regulations of one country are considerably different from other countries, which creates variations in economic activities. These laws are amended by the country specific regulatory authorities to manage economic conditions. Such changes in country's laws and regulations lead to changes in the prices and values of investment (Poon & Granger, 2003). In this way, legal environment of a country is tended to create the volatility in financial markets and to change the value of cross border investments.

In addition, the dynamic nature of legal environment also decreases the level of confidence and trust of foreign investment in concern of cross border investments. This creates volatility in financial markets, which persuades foreign investors to make withdrawals of their capital from other nations (Bernardo & Welch, 2004). This greatly affects the economic conditions of a company and further depresses the value of investment.

The financial market is usually divided into the banking sector, the capital market and the non-bank financial institutions. This study focuses on the volatility in the Nigerian capital market and its effect on cross border investments. A capital market is a segment or a distribution of a nation's financial sector or system where the main article of trade is medium and long-term financial instruments. Such instruments are generally referred to as securities because of the level of confidence and assurance it gives to the investor on the repayment of their principal.

Olawoye (2014) noted that the capital market is an essential agent of economic growth because of its ability to facilitate and mobilize savings and investment. The Stock market activities of a country influence greatly the cross-border investors and their returns. Volatility only depicts the changes, which can make either positive or negative impact over the returns of investment. Positive changes in capital market conditions lead to higher returns for the foreign investors (Pettis, 2001). It boosts the confidence among them and further contributes in the enhancement of investment value.

Negative change in the values of their investment returns may lead to problems of liquidity, which could affect organizational financial and operational performance (Baker & Riddick, 2013).

1.1. Statement of the Problem

Nigeria economy is the Africa leading and fastest growing economy with a total GDP value of \$481.07 billion US dollar in 2015 according to National Bureau of Statistics (NBS). This is an open economy, which has attracted huge number of foreign investors. The Financial crisis of 2008 made a major impact over the investment of foreign firms, which affected their financial conditions adversely. This situation highlights the need to understand the factors, which reasonably create volatility in investment in Nigeria financial market. The focus on the Nigeria capital market will effectively offer a base to understand the causes of volatility. It would help business to make informed investment decisions and strategies. Osaze and Anao (1999), asserts that capital market is the corner stone of any financial system since it provides the funds needed for financing not only to businesses and government but also serve as an investment outlet for foreign investors. To a great extent, the positive relationship between capital accumulation and real economic growth has long been affirmed in economic theories (Anyanwu, 1996; Osamwonyi and Kasimu, 2013). The development of the capital market in any country largely depends on inflow of foreign capital and mobilization of domestic savings (Osamwonyi and Kasimu, 2013; Okoye and Nwisienyi, 2013).

The focus of this study is to establish the relationship between cross border investments and the volatility in the Nigerian capital market.

1.2. Objectives of the Study

The broad objective of this study is to analyse the effect of cross border investments on financial market with focus on the Nigerian capital market. Other specific objectives include to;

- Establish the effect of foreign portfolio investments on market capitalization of the capital market.
- Determine the impact of trade openness on market capitalization of the capital market.
- Investigate the effect of exchange rate on market capitalization of the capital market.

1.3. Research Questions

The research work shall be guided by the following research questions:

- What effect has foreign portfolio investments on market capitalization of the capital market?
- How does trade openness impact on market capitalization of the capital market?
- Does exchange rate has any effect on market capitalization of the capital market?

1.4. Statement of Hypotheses

The hypotheses to be tested in this study are as follows;

- H₀: There is no significant relationship between foreign portfolio investments and market capitalization of the capital market.
- H₀: There is no significant relationship between trade openness and market capitalization of the capital market.
- H₀: Exchange rate has no significant effect on market capitalization of the capital market.

1.5. Significance of the Study

In the current business environment, most of the firms prefer to expand their business in international markets for increasing their market share and gaining benefits from economies of scale. This preference of firm is responsible for creating vast network of international trade and flow of money and due to this; they tend to make huge cross border investments. Volatility of financial market reasonably creates negative impact over their returns and financial performance and this way sometime a reason of functional collapse. So, it becomes crucial need of organizations to understand the factors that affect their investments in foreign countries.

Nowadays, investment activity of firms covers a wide area of their financial performance and it is because they need to keep constant focus over the factors that have potential to impact it. The management of financial performance and enhancement of returns has become major priority of organizations due to increase in competition. This research topic is selected as it will define all possible aspects of financial market volatility particularly the capital market and their impact foreign investment returns. This knowledge may help organizations to get high return from the foreign countries' investment. By gaining significant understanding about the factors, which are responsible for creating volatility in the financial market, organizations will be enabled to determine the most appropriate strategies in their investment endeavours.

1.6. Scope of the Study

This study which is set to determine the impact of foreign portfolio investments on financial market with focus on the Nigerian capital market will cover a period of 35 years from 1980 to 2015. This period covers the pre and post global financial crisis which affected the stock markets in all parts of the world including Nigeria. Data from the World Bank Development Index, International Monetary Fund (IMF), and Central Bank of Nigeria (CBN), National Bureau of Statistics (NBS), Journals and other relevant materials will be used in the analysis.

1.7. Organization of the Study

This study shall be divided into five chapters. The first chapter provides the background of the subject matter justifying the need for the study. Chapter two presents related literature concerning inflation and government expenditure. The research methodology, which includes the theoretical framework, sources of data, model formulation, estimation techniques etc, are stated in chapter three while data presentation, analysis and interpretation of regression result were made in chapter four. Concluding comments in chapter five reflects on the summary, conclusion, recommendations and suggestion for further studies based on the findings of the study.

2. Literature Review and Theoretical Framework

This chapter displays the critical assessment of articles, journals, books and authentic websites associated to the impact of cross border investments on financial markets particularly the Nigeria capital market. The concepts, theoretical and empirical reviews including the theoretical framework of the study will be carried out in this chapter.

2.1. Conceptual Framework

2.1.1. Financial Market

According to Poon et al (2014), financial market refers to the market where people make transactions regarding to the finance and trade in different financial instruments such as bonds, security and currencies. Poon et al (2014) also state that monetary markets have various forms and manage in various ways but all of them like highly organized London Stock Exchange, NASDAQ or highly informed currency changers on the street corners have the identical rudimentary roles. In this, the functions are mostly related to the price setting, asset valuation, arbitrage, raising capital, commercial transactions, investing and risk management. In support of Poon et al (2014), Lee &Mykland (2008) exhibit that financial market helps the companies in business growth by raising capital and providing investors a profit on their investments.

Lee &Mykland (2008) also argue that financial market has two components such as money market and capital market that help the companies to generate money for the business effectively.

In the views of Chinn & Ito (2008) financial markets help individual to access the market in terms of trading in financial instruments of a company and accessing the market capabilities to make profits. An active financial market includes various activities such as indemnity underwriting, bank loaning to individuals and small businesses and trading in commercial instruments such as stocks and spin-offs. On the other hand, Hu (2006) also presents views and states that financial markets are all about raising capital and matching the public with surplus money and people with need of cash. The financial market provides platform for the investors and companies to make financial transactions in order to achieve profits and to make money.

2.1.2. Volatility

According to Carson et al (2006), volatility refers to the average changes in the price of commodity over a specific time interval. There are two types of volatility in the financial market such as low and high volatility. Further, Carson et al (2006) also describe that when the average change in price is small and the risk of price is also small and it is called low volatility. On the other hand, when the average price of change is large and the risk of price is also large then it is referred as the high volatility in the market. Zhang et al (2009) also support the arguments of Carson et al (2006) by saying that in the market volatility changes with the period over which it is estimated. The estimation of volatility is based on the day-to-

day, weekly and monthly basis that helps the companies to estimate the price changes and to manage the price risk effectively in specific time duration.

In the views of Hansen &Lunde (2005), volatility refers to the changes in price of a security or commodity or any assets over a specific time period. Further, Hansen &Lunde (2005) also state that volatility in the market can be calculated on two bases such as historical and implied. In this, historical volatility is measured on the price movement based on the historical prices of security or commodity. On the other hand, implied volatility can be measured through option price of a stock.

2.1.3. Cross-border Investment

According to Nocke&Yeaple (2007), cross-border investment refers to the investment of money by foreign investors directly in the companies. In the cross-border investment, the investor from other country may take the equity of a local firm, may create wholly-owned subsidiary or a joint venture that may help in establishing transnational network. Nocke&Yeaple (2007) also states that in cross-border investment, investor mostly creates foreign direct investment that helps the investor or firm to create management interest in a local firm and direct control over its production activities. In support of Nocke&Yeaple (2007), Hijzen et al (2008) state that cross-border investment refers to the net inflows of investment in order to achieve management target of a local firm in terms of stock or voting rights.

In the views of Ahearne et al (2004), cross-border investments provide the rights to the multinational organization or individual to take initiative part in the meetings and voting of a company. Through this, investor can influence the decision-making process of the local business and control over the management activities effectively. Makela&Maula (2006) also support the arguments of Ahearne et al (2004) by saying that cross-border investment helps companies or individuals to improve the decision-making style of other companies. Further, Makela&Maula (2006) also state that there are two types of cross-border investments such as inward and outwards investment that can be made by an individual, group of related individuals, companies, government bodies and trust or other social institutions.

2.1.4. Factors for Volatility in Financial Market

According to Adrian & Rosenberg (2008), there are various factors in financial market that impact volatility in the markets. In these factors, global and national factors play an important role that impact on the market trends. The research exhibits that in the national wide factors, inflation and interest rates play an important role that creates directional changes in the marketplace. The changes in interest rates and inflation changes the prices of securities and other financial instruments that increase the volatility in the market. In support of Adrian & Rosenberg (2008), Engle & Rangel (2008) state that changes in the inflation trends also influence the volatility in terms of changes in price earnings ratio. Engle & Rangel (2008) argue that in the markets, inflation rate depends upon the price earnings ratio and changes in the price earnings ratio influences the inflation rate that impacts on the instability in the financial market.

In the views of Eraker (2004), factors in the financial market such as region and country specific factors and industry and sector related factors are also vital for volatility in the financial market. Eraker (2004) also exhibits that country specific factor such as changes in laws and policies may change the price of individual stock and may influence the overall market. For example, in US financial market, the introduction of income tax act and regulatory system influenced the financial market and impacted on the individual stocks of the companies (Eraker, 2004). The introduction of these acts and regulations also provides the directional changes of the marketplace and instability.

Chordia et al (2005) also favour the arguments of Eraker (2004) by stating that economic factors are also important that increase the volatility in the financial markets. Chordia et al (2005) also state that there are several economic factors that may cause sluggish changes in stock market instability. The economic factors such as corporate leverage, comprising financial leverage, operating leverage, personal leverage and condition of economy may cause to the slow changes in volatility in the financial market. In support of this, Lustig et al (2011) exhibit that increase in financial leverage increases the volatility of companies' stock returns. On the other hand, operating leverage is also an important factor that makes the value of firm more sensitive to economic condition. It also influences the stock price and instability in the financial market that is a reason of volatility.

Koren&Tenreyro (2007) exhibit in their research that manufacturing industries or sector specific factors also have significant influence the instability in the financial market. The industry or sector specific factors such as firm size, market value, industry type, employment and price of product are some of the influencing factors for volatility. Further, Koren&Tenreyro (2007) also state that industry or sector specific factors change the price of stock of particular industry that also influences individual company stock in the market and generates volatility. In contrast to this, Comin&Philippon (2006) argue that industry or sector specific factors not only influence volatility, but also increase the risk that changes the price of stocks of a company. The research exhibits that industry specific factor such as changes in the price of product increase the risk for the company that influences the stock price stability of the company.

According to Aghion et al (2004), in the financial market, the level of financial growth also influences the instability. Changes in the financial conditions at national and international level and the development of internal financial sector also play a major role in influencing volatility in the specific nation. The growth of financial market leads the country for industrial growth and develops the investment patterns that change the volatility rate. At the same time, in oppose to this, Christopoulos&Tsionas (2004) explore that in many countries, microeconomic factors decrease the volatility rate. For this, Christopoulos&Tsionas (2004) gave the example of US financial market and states that in the US financial market, output growth is noticed as less volatile that influences the stocks prices in the financial market.

In the views of Corsi (2009), in the financial market, stock price volatility is also incurred due to the quarterly variation in operating results. High differences in quarterly operating results in a company influences the stock price

because fluctuation in operating results influence the profitability of investors in the year end that directly influences stock price of the company. In favour of this, Cunat&Melitz (2012) state that in micro-economic factors, new business combination factor also influences the volatility. Establishment of new strategic alliances and incorporation of new business influences the price of security of a company in stock exchanges that has an impact on the investors and directly increases the volatility in the financial markets.

Chorafas (2004) also presents views related to factors for volatility and states that changes in financial and other estimates by securities analysts also influence the volatility of stock in the financial market. The research exhibits that in the year end or quarterly, financial analysts analyze the companies' performance and evaluate the stock in order to provide directions to the company. The analysis of financial results influences the companies' operations and increases the volatility in their stocks that influences the market. In support of this, Guay et al (2011) state that analysis of financial statements by financial analysts and their recommendations influence the market of companies. The positive result of financial statement helps the companies to create positive volatility in the market on the other hand, if analysts give negative feedbacks to the company, it increases the volatility and high changes in the stock prices negatively.

In the views of Antweiler& Frank (2004), recommendations provided by financial analysts also impact the investor perception that influences the volatility of stock in the financial markets. Antweiler& Frank (2004) also state that financial analysts estimate the future directions for the companies that influence investment decision of investors and impact the prices of stocks of companies in the stock exchange market. In oppose to this, Han (2006) explores that the recommendations by financial analysts help the companies to decrease the influence of volatility on stock prices and increase the stability of businesses in the market. Most of the time, positive recommendations help companies to reduce the volatility in stock prices effectively.

Adrian & Rosenberg (2008) also explores that business condition is also one of the factors that influence volatility of companies' stock in the financial markets. The research exhibits that stock volatility increases during the economic recession. At the time of High depression in the financial market, the rate of volatility is also high that causes a decline in stock prices. In the research, Adrian & Rosenberg (2008) also provide an example of OPEC and state that in the year of 1973-74, OPEC faced the recession that influenced its stock prices negatively and increased volatility in the financial markets. In support of Adrian & Rosenberg (2008), Gatev et al (2009) assert that at the time of recession, unemployment is one of the factors that influence volatility. It is because unemployment impact upon the organizations' capacity and operations that influences the production process. This discourages the investors to invest money in specific industry stocks.

In oppose to this, Statman et al (2006) explore that there are some factors that may cause short term volatility in the financial markets. In this, trading volume is one of the influencing factors that impact on the volatility of stocks. The research exhibits that in the stock exchange, trading volume causes volatility, but in the condition that all investors or dealers desire to acquire or sell that price change speedily. In support of this, Drimbetas et al (2007) state that in trading volume of stocks, observation of market movements helps the investors to make stronger their market predictions that supports them to reduce the volatility in the specific company's stock and in the financial markets.

In the research, Irvine & Pontiff (2009) also exhibit that competitors' activities are also influencing factor for the volatility of a company's stocks. In the research, it is explored by Irvine & Pontiff (2009) that in the financial markets, a positive activity of competitors increases the prices of their stocks as compare to the other companies that influence the markets and other companies' stocks prices in negative way. In favour of Irvine & Pontiff (2009), Peress (2010) exhibits those competitive actions by a firm influences an investor's decisions that increase the volatility in other companies' stocks and influence the operations of companies.

2.1.5. Impact of Volatility of Financial Market on Cross Border Investment

According to Di Giovanni (2005), instability generates vast impact on the cross-border investment in financial markets. The research exhibits that in today's competitive environment; most of the organizations are engaged in cross border production and trade trends in order to protect themselves from the volatility through the different techniques such as hedging and matching. The volatility in financial market influences the investment of organizations and has impact on the investment activities. Daude&Fratzscher (2008) also favour the arguments of Di Giovanni (2005) by stating that changes in the price of stocks and assets influence the decision-making process of investors that impact on the organization and its securities in negative way.

In oppose to this, Kiymaz (2004) exhibits that the availability of FDI helps the companies to increase the productivity. It supports the organizations to attract investors towards the investment in the companies' stocks effectively and reduces the volatility in the markets. Foreign direct investments also support the government to maintain the stable rate of volatility in the nation and decrease the power of instability on cross border investments. In this support, Silva &Tenreyro (2006) state that instability also has an impact on cross border investments in terms of changes in economic policies and regulations. It is because country specific volatility rate provides the directions to the governments to develop and establish effective economic policies, so that they can reduce the level of volatility and increase the cross-border investment in the financial markets.

In the views of McDonald (2001), volatility in financial market also influences cross border investment in terms of establishing mergers and acquisitions effectively in the country. Volatility in financial market influences the decision of merged companies and creates fluctuations in the companies' stock prices in negative way. The study also exhibits that change in the financial market conditions at the time of merger and acquisition activities influences the investment activities of the organization that create high instability in the individual stocks and influence the financial market. In support of this, Edison & Warnock (2008) state that changes in the currency also presents the challenges to the

organization to make cross border investment activities effectively. Edison & Warnock (2008) also argue that different nations have their different currency that impact on the merger and acquisition activities as well as cross border investment activities. Through this, investors are discouraged to invest their money in other countries' organizations.

Durham (2004) also states that volatility also impact cross border investments at the time of financial crises. It is because financial crises impact on the stock prices of the companies. The main reason behind this is that at the time of financial crises, companies reduce their production as well as HR capabilities that influence their stock prices in the financial market. This increases the volatility rate and also discourages investors to invest their money in the international companies. In support of Durham (2004), Takats (2010) provides an example of European financial crises and its impact on the cross-border investments. The study exhibits that financial crisis affected the different sectors of Europe financial markets such as money market, bonds and retail banking markets. In this, the instability rate impacted on the cross-border investments in terms of insufficient infrastructure and economic policies for the investors.

Takats (2010) also argues that integration of different European countries currencies in one currency, Euro, also presented the problems for companies to maintain effective volatility rate in the financial market, so that investors can be motivated to invest money in the foreign businesses and organizations. In respond to this, Bekaert et al (2006) state that there is also a positive impact of instability on cross border investments. Researcher identified that through estimating instability rate in the financial market, an organization can identify the future investment needs in other companies. This can also helpful for the companies to develop the policies in order to make effective cross border investments in the country.

In the views of Beck &Fidora (2008), instability also generates negative impact on cross border investments in terms of allocation of assets. It is resolute that in order to achieve more profits from markets; most of the investors allocate their assets to emerging markets. It helps them to maintain a high profit ratio effectively, but changes in the stock prices of assets create high volatility for the investors that influence their decision and discourage them to invest their money in different countries' businesses or organizations. At the same time, Truman (2008) also favours the arguments of Beck &Fidora (2008) by saying that changes in the asset price also influences the operations of organizations that discourage other companies to make cross-border investment in the other country.

In the research study, Portes& Rey (2005) explore that in the financial markets; higher interest rate volatility also creates challenges for the investors and impacts their cross-border investment activities. It is because higher interest rate volatility increases the upfront investment expenditure that influences the cost of the investments. The research study also exhibits that higher interest rate volatility decreases the profits of investors or multinational companies that impact on their operational as well as investment activities in the specific country. In contrast to this, Warnock & Warnock (2009) state that the use of effective economic policies and strategies by multi-national organizations and investors can reduce the impact of higher interest rate volatility. The use of economic policies can provide directions to the investments.

Jiang et al (2002) also demonstrate that the level of volatility in the financial market also influences corporations' investment decisions and discourages the major participants to provide two-way price quotations in real economy. It also reduces the liquidity and increases the volatility of stock and bond return in the stock exchanges. In favour of this, Bailey et al (2007) state that in the financial market, volatility is also incurred through the recommendations by financial analysts on financial data and estimated future of organization. This also influences the investors' decisions of cross border investment and discourages them to decrease their investment activities in order to reduce their losses in the future.

Verbeke& Merchant (2012) also support the arguments of Bailey et al (2007) by stating that recommendation by financial analysts changes the market conditions for the particular company that impact on the investment activities and generates the high volatility for the cross-border investments. On the other hand, the views of Baker & English (2011) contrasting the views of Verbeke& Merchant (2012) by stating that outward FDI helps the companies to estimate future volatility rate in the financial market. It helps the firm to determine the cross-border investment in the particular country in advance that support the businesses to make their investment activities stronger in different financial markets.

According to Record (2004), cross border merger and acquisition plays an important role that impact the volatility in the financial market. The study exhibits that at the time of cross border merger activities, different factors such as valuation of country currency, economic crisis and environmental crisis changes the financial market conditions that impact on the investment value and increase volatility in stock prices. It also impacts on the cross-border merger and acquisition process of the businesses and discourages the investors and multi-national companies to make effective investment activities in international financial markets (Gagnon, 2011).

In the favour of this, Artis et al (2012) state that instability also impacts the cross-border investment in terms of inflation. It is identified from the research that inflation in the country increases the level of volatility in the financial market that influences the cross-border investments negatively. It is because inflation increases the price of product and decreases the productivity and efficiency of companies that motivates the investors to disinvest the money from the companies' stocks. In the views of Baker &Kiymaz (2011), the volatility also influences the cross-border investment in financial market in manner of high cost in expanding business and in enforcing contracts. Baker &Kiymaz (2011) also state that in cross border investment, an organization faces higher volatility rate that increases costs of business expansion activities. It influences the investments and increases the cost of the company that influences profits at the year end. In some countries because of the higher volatility in financial markets, the enforcement of contract cost is also higher that impacts on the organization and its investment activities in a negative way.

2.1.6. Suggestions to Avoid the Impact of Volatility on Cross Border Investments

Financial market volatility makes significant impact over the firms' investment, which they make across the national boundaries. Easterly (2005) depicts that positive economic growth of a country majorly accounts for developing good investment returns and, in this case, government plays a significant role. The efforts of a country's government in handling the economic conditions influence the growth and investment return accordingly. Aghion et.al (2001) support the view of Easterly (2005) and state that government of a country should focus over the effective management fiscal exchange. By managing the currency price effectively, government can achieve the worth of fiscal assets and this would be efficient to guard the investment returns at greater extent.

In accordance to the views of Meldrum (2000), depreciation of currency price leads to decrease in the worth of fiscal assets and their associated returns. This discourages foreign investors to make their investment in such countries, which further increases volatility in financial markets and affects the returns of cross border investments. Due to this, government should emphasize to make the currency value stable as it would help to handle the financial market volatility and cross border investments at greater extent. Globerman& Shapiro (2000) also favour the view of Meldrum (2000) and depict that high value of currency plays a crucial role to signify the competent conditions of country' economy and financial assets. This is sufficiently enough to attract foreign investors for making and retaining investments, which reduce the chances of financial market volatility. Due to this reason, government should manage the currency value for reducing the impact of volatility on cross border investments.

Kose et al (2003) also depict that there are number of strategies that can be beneficial in avoiding or reducing the impact of financial market volatility over the cross-border investments. In this, firms should adopt proactive ways to maintain the return of cross border investments. They should estimate the expected volatility, which can influence in future. It would be helpful for them to make informed investment decisions and to create stability in the returns. Christoffersen& Diebold, (2002) also favour the views of Kose et al (2003) and depict that firms can measure the volatility by using the standard deviation. This measure provides organizations an effective floor to measure the variations of return, which may occur in their investments. By measuring risk on the basis of investment size, companies can avoid the impact of volatility on cross border investments.

Luo et al (2010) oppose the views of Christoffersen& Diebold (2002) and depict that impact of volatility on cross border investments cannot be avoided by the firms without the support of country specific government. They state that government of any country should emphasize over the development and formulation of different economic policies that could strengthen the investment avenues. Rodriguez et al (2005) also favour the views of Luo et al (2010) and depict that government should introduce policies that could provide foreign investors an effective floor to reap more benefits from the cross-border investments. By this way, government can make a country most desirable investment avenue for the foreign investors. This will also help to support the investments, which are made by the investors of the other countries. In this way, effective support of government may reduce the reasons, which are responsible for volatility in the financial markets.

According to Bengoa& Sanchez-Robles, (2003), government should also make informed decisions, while allowing other countries for the investment. It should firstly examine the size of the investment in terms of financial market volatility. This can help them to avoid such investments, which withdrawal can make the financial market volatile. In addition, government can make such policies or set some limits in concern of foreign investors, so that they could not be able to withdraw their money from the market immediately. This may reduce the withdrawal of foreign investment form the financial market that would be effective to reduce the reasons of volatility. Less withdrawal of foreign investment plays a significant role in providing strength to the financial market of a country, which is quite crucial to increase stability (Alfaro et.al, 2004).

White et al (2007) oppose the views of Bengoa& Sanchez-Robles, (2003) and state that government policies that affect fund withdrawal ability of foreign investors can make a country unattractive for the investment purpose. If country's government will take some steps to reduce the flexibility of financial markets, then it may create disappointment among the foreign investors. Due to such policies, a country's financial market can be considered unattractive and unproductive by the foreign investors. This may increase the withdrawal of funds from the financial market and this will be responsible for creating volatility. Besides of this, such policies may also disable a country to attract new capital in the financial markets, which can weaken the economic conditions. This situation will affect the value of currency and create volatility in the financial market.

Zarsky (2012) support the views of White et al (2007) and depict that reduction in flexibility of financial market through the government policies can be affected its stability at greater extent. For reducing the impact of volatile financial market from the cross-border investment, organizations should use hedging and matching strategies as these strategies help to avoid the risk, which incurs in the cross-border investment, due to volatility in financial markets. Jackwerth (2002) also advocates the use of hedging strategies for limiting the risk that rises from the volatility of financial market. They depict that options and futures are the two main financial instruments, which are used by organizations to reduce the risk and to protect the investments. Such financial instrument allows organizations to design their strategies of hedging and to gain adequate returns from the cross-border investments.

Brenner et al (2006) also depict the importance of hedging strategies to avoid the impact of volatility on cross border investments. The volatility of monetary market incurs due to unanticipated changes in the values of financial assets. Control over this aspect help organizations to make effective management of their cross-border investments. Hedging and matching strategies allow firms to make an investment to limit the risk from foreign investment, which incurs due to adverse movements in an assent's price. In this way, it helps to cover the losses that occur from asset and currency devaluation. Fung & Hsieh (2001) oppose the views of Brenner et al (2006) and depict that the execution of such strategies does not ensure risk avoidance, which may incur huge loss for the firms.

According to Demirgüç-Kunt& Levine (2004), the in-depth analysis of a country's financial market can also help firms to avoid the volatility risk from the cross-border investments. This analysis may provide a significant knowledge about the movements of a country's stock market activities and banking sectors, which are majorly responsible for affecting the value of asset, currency and foreign investment accordingly. On the other hand, Butler (2012) depicts that volatility of financial markets can be avoided by the firms successfully with the formulation of individual's policies in concern of investment, which they make across the national boundaries. It will help them to modify the impact of financial market volatility over the betterment of organizations. In this way, it may aid to avoid the impact of financial market volatility over the cross-border investments.

Rosenbaum & Pearl (2013) depict that firms should keep constant focus over the merger and acquisition activities of the country, which may allow them to investigate the performance of a country's economy and its impact over the investment. By analyzing the merger and acquisition, companies will enable to obtain practical knowledge about financial market volatility and its impact over the cross-border investments. Boateng et al (2008) support the views of Rosenbaum & Pearl (2013) and depict that companies need to understand the condition of merger and acquisitions activities and their returns by analyzing the financial markets. This may help firms to predict the volatility of financial market and their impact over the cross-border investments at greater extent. In this way, it will allow a firm to make an idea about the price movements of host country and to develop effective cross border investments.

It is determined that there are several ways, which provide an effective floor to avoid the impact of financial market volatility on global investments. Firms may use combination of strategies to understand the investment risk and to manage their portfolio accordingly.

2.1.7. The Nigeria Financial Market

The financial system is fashioned to move resources from excess economic units to shortfall economic units in order to produce goods and services and to make investment in new equipment and facilities so as to expedite the development of the economy and improve the standard of living of its citizens. It is generally recognized that financial system plays a catalytic role in the process of economic development. The financial system of any country is a function of the size of its economy. A growing economy places more tasks on the financial sector to mobilize the needed resources to expedite production, generate employment and income. An economy that does not experience development on sustained basis is likely to have a very inactive monetary sector as there are no incentives for investment. Through the process of growth, financial system offers a wide range of portfolio options for savers and issuable instruments for investors, a function often referred to as financial intermediation (Oke, 1989).

The Nigerian financial system encompasses of various institutions, markets and operations that are in the profession of providing financial services. These institutions can be broadly categorized into money and capital markets while money market is a market in which short term financial instrument are traded, the capital market on the other hand deals with long term transactions.

The major actors in the money market are the banks and discount houses. The intermediation role of banks ensures the enlistment of idle funds from the excess units to the shortfall sector. Just like the money market, the capital market is network for mobilizing long-term funds. The main organisations are the Securities and Exchange Commission (SEC) which is the apex regulatory authority, the Nigerian Stock Exchange (NSE), the issues houses, stock broking organisations and the registrars, (Olofin and Udoma, 2008).

However, with the liberalization of licensing of banks following the introduction of Structural Adjustment Programme (SAP) in the mid-1980s, the restriction of banking in Nigeria extended both in size and operation. According to Ochejele (2003) this development strengthens the rate of rivalry among banks. The level of rivalry has been further strengthened in this century because of the consequence of globalization and amalgamation of the banking industry into the global system. Consequently, management of Nigerian financial organizations are faced with terrific challenges and should strut up to these challenges. Thus, only those banks that are well positioned will become relevant and will be able to withstand the tempest of rivalry. It is based on the foregoing that the paper wishes to examine the challenges faced by the Nigerian financial markets in the deployment of ICT-based services.

2.1.8. Challenges of the Nigerian Financial Markets

2.1.8.1. Deployment of Information Communication and Technology (ICT) in Operational Services

The Nigerian financial market was previously controlled by small assets-based banks that were not internationally economical. Ovia (2002) noted that in repositioning the Nigerian financial market for attractiveness will involve the deployment of ICT infrastructure which play dominant catalytic role in growing the marketplace. Thus, in the face of the keen rivalry in the business, market actors must develop new strategies. Financial institutions globally are forced by the emergence of information technology to fast-forward to more drastic change of business systems and models. It is in the same spirit that Bill Gates (2001) noted that:

"the successful corporations of the next eras will be the ones that use technology to re-invent the way the work. These will enable organisations make decisions quickly, act efficiently and directly touch their clients in positive ways. Going digital will put the business on competitive advantage and on the leading edge of the shock wave of change. That will destroy the old traditions of doing business and aligned will global best practice". We are now in a new era of technological revolution. Nations are beginning to strive over control of data rather than natural resources. The trend today is E-platform which implies offering financial services through electronic media to various clients irrespective of place, time and distance. A client user friendly environment with high quality service deliverance needs to be in placed in order to enhance high patronage. To this end, improvement in banking technology and institutional arrangements for transmission mechanism as well as other operational areas of banking operations to ensure operational efficiency has become a convincing necessity. This comprises electronic money, internet banking, telephone/mobile banking, reduction of cash transaction, smart card, ATM transactions and capacity to process high volume of transactions among others.

2.1.8.2. Human Resources Management

The significance of the human resource in business management is a generally accepted statement. It is in this light that management needs to make adequate investment in human factor. It should be noted that there is no competitive instrument more powerful and effective in a financial market than the quality of its human resources. As remarked by Sanusi (1995) machines and advanced technology can provide informational and transactional convenience but only manpower can provide the reliability, innovativeness and care that can build long-term customer and client relationships. In other words, there is need for capacity building in these organisations to enable us manages the wind of technological advancement. Besides, no matter how accurate or competent a computer is, it cannot feed itself with input and it can neither offer a welcoming smile nor a warm handshake (Ochejele, 2000). Banking (and indeed the entire sectors in the financial markets) is people-related and the quality of personnel will make the vital distinction between what constitutes a good bank and a bad one. Consequently, of all the challenges facing the Nigerian financial markets, human capital development is the most intimidating.

2.1.8.3. Fraud Prevention and Monitoring System

Another major challenge facing the financial sector is the need to minimize the high rate of frauds and other malpractices in the system. It is vital that bank managers and other market actors should give more attention to the issue of maintaining the highest ethical and professional standards in all their dealings with their customers. This requires having proper aptitude of Code of Conduct and Banking Practice cooperatively developed by the Chartered Institute of Bankers of Nigeria (CIBN), Central Bank of Nigeria (CBN) and the Bankers Committee (General Assembly of Bank Chief Executives). Issues of business trustworthiness, reverence for legitimate laws and regulations, concern for the people in which a bank operates will become as much significant as proceeds consideration in the 21st century. Presently, Nigeria is regarded as one of the most corrupt countries in the world (Dabwor, 2008). Just like the money market, capital market suffers from a number of mismanagements spread by the actors in the market, although the level of misconducts is not as noticeable as in the banking sector. Some major wrongdoings in the capital market as recognize by Usman (2002) include "insider dealings, market manipulations, false trading; market rigging and fabricated representations".

2.1.8.4. Liquidity Management

There is assumption that there will be inflow capital for external source for the growth of the economy in the country, financial institutions must identify their key role in internal mobilization of resources. It is assumed that the economy is a washed with liquidity and substantial portion of this liquidity is held as idle cash balances outside the banking system. Resource mobilization is the major challenge facing the financial sector. Again, in internal mobilization of resources, market operators must also ensure efficient channelling of these resources to industrious sectors of our economy. The obligation of enhancing the growth of the economy should be regarded as the main assignment by all companies in the sector. Fund mobilization and allocation should therefore form a major plank of management policies in this century.

2.1.8.5. Full autonomy of the Central Bank of Nigeria

The improvement of the banking industry and indeed the economy would be tough without an institutional and operational independence of the Central Bank of Nigeria (Ekundayo, 1996). The present state of affairs where the apex bank is only given insignificant autonomy which it cannot exercise effectively and is not very good for the banking sector. The CBN should be given the power to establish its authority over its outdated area of jurisdiction. It is only with such authority that the apex body will be able to formulate feasible monetary policies and render advisory roles to the Federal Government on financial issues. To this, may be added the need for internationalization of the Nigeria capital market in spite of the malpractices in the market, the Nigerian Stock Exchange (NSE) has been strengthening the efforts at encouraging cross-border listings. The NSE is reported to have signed a memorandum of understanding (MOU) each with other countries Stock Exchange such as the Nairobi Stock Exchange, the Ghana Stock Exchange and the Johannesburg Stock Exchange. NSE should enhance it effort to fight the misconducts to emphasize the internationalization of the capital market.

2.1.8.6. Need for Capital Adequacy

One of the products from deregulation exercise was the development of the financial markets in both size and range of operation. This development amplified rivalry particularly in the money market. As the statistics of banks increased, so was the seed of volatility planted in the system leading to the trauma of distress and the collapsed of many financial institutions in the country. In the main, the financial system was in the stormy waters of total distress. This shook the industry to its very foundation and exposed the weak financial structure of many banks. This posed a serious challenge

for the need for adequate capitalization of the firms in the industry. The need for funds adequacy is clarified by the creditworthiness objective of banks. Affluence would guarantee safe and sustainability of banks and other financial institutions. Except this goal is regularly measured, a time will come when the short-run goal of liquidity cannot be met. To protect banks against loss that would result from liquidation of long-term assets in meeting customers' requests for funds, there is the need to strengthen the bank's principal structure so as to provide security between capital stock and deposit liabilities (Ochejele, 1999).

2.1.8.7. Technological Innovation

Innovation is additional problem that the financial markets are facing in Nigeria. Innovation can be described as the new technique of doing things. A probable scenario that may describe some company is the possibility of contentment. Research have shown that, some companies as soon as they have achieved certain level of regulatory provisions, there would be no additional inducement for development. It should be pointed out that there is "no bliss point" as far as any system's operation is concerned. This forms the basis of the current literature in management christened. Total Quality Management (TQM), management needs to develop techniques that have never been tried before and approaches that will give the company competitive advantage over its rivals. There is the need for the creation of research and development department that will monitor development in the markets, the economy and the world at large so as to appropriately advise management of the company accordingly. Innovation can be done through rigorous scrutiny of the existing procedures, prospects, market forecast, distinctive experience and common sense with a view to working out a new way of managing the business. This challenge also entails strategic business management allows an organization to formulate and execute better decisions through the use of systematic, logical and rational approach to strategic choice. One of the advantages of this tactic is the empowerment of an individual and the strengthening of his decision-making aptitude.

The proliferation in the number of financial institutions also witnessed a rise of crimes done by individuals and financial institutions. One area which remains a sensitive issue for the banks, is the high tendency for non-payment by many bank debtors in the country. This has seriously vitiated risk asset quality of many banks despite the promulgation of offence and Penalties Against Financial Malpractices Decree 18.

The decree makes it an offence against any bank's employee who deliberately grants any facility with faulty security or any bank customer who defaulted payment of facility granted him. This problem of non-performing risk assets of banks has remained a critical issue in which banks have to contend with.

As earlier specified, the deregulation of the Nigerian economy marked a watershed in the national economy. This development caused the inflow of companies into Nigerian financial markets. Coupled with the trend of globalization, businesses now face greater number of rivals. Apart from local firms, foreign firms have started spreading their tentacles to the frontiers of the Nigerian financial markets. The pace of globalization as being experienced in the country has been mainly unidirectional; i.e., influx of foreign companies into the domestic financial and oil markets without corresponding investments by our indigenous investors in international money and capital markets. As a mean of diversifying their investment outlets, firms in the financial markets should start to look beyond the shores of the country for investment opportunities in the advanced countries where returns on investments are much higher and investment climate more stable.

2.1.9. Global Capital Market

The global capital market is gaining ground every day. Along with the development of this market, the liquidity is also growing at a faster rate. Several assessments have shown that financial stocks are growing worldwide and their growth rate is much higher than that of global gross domestic products. Capital market represents the securities market where stocks, bonds, and several other derivatives are traded. In the capital market, long and short-term debts are raised. This market offers companies, as well as governments the necessary financial resources and grants investors with the chance to make regular profits.

The development of the global capital market can also be drawn by the fact that the financial holdings of the globe is growing quickly. With the emergence of the concept of globalization, the diversified world market has been transformed into a single market, which has resulted in the promotion of inter-country trade. Because of this, there has been an increase in stature and an increase in capital flow, of which the United States of America, Europe and Britain share almost 90%.

On the other hand, as a result of the prompt modification of the Eurozone, its emergence as a financial power is causing positive changes. This could shift the pillars of the world economy, as the Eurozone is expected to soon stand on the same financial platform with its counterparts.

2.1.10. History of the Nigeria Capital Market

The capital market is basically a market for long-term securities such as stock, debenture and bonds for the duration usually longer than three years. The appropriate working of the capital market was not setup until the establishment of the Lagos Stock Exchange in 1961. The need to have a structured stock exchange came up far back during the colonial era when British government was ruling Nigeria as the like sought for funds for running local administration. According to Odife (2000), the first step in this direction was the provision of security for the needed finance for the infrastructural development and long-term capital project. This was done in 1946 when it promulgated the 1946 ten (10) years plan Local loan Ordinance.

In 1957, the government and other securities (Local Trustees Power) Acts was passed. This law detailed the type of securities in which trust funds may be invested. By the end of 1957, the colonial administration had promulgated the

General loan and Stock Act and the Local Loan Act on the recommendations of the Barback Committee. In 1958, the Central bank of Nigeria was established through the Central Bank of Nigeria Act of 1958, it also enacted the Statutory Corporations Act. In April 1960, the Central Bank of Nigeria issued the first Nigerian Treasury Bills which were meant to provide an avenue for the investment of short-term liquid funds.

On September 15, 1960 the Lagos Stock Exchange was incorporated as a private limited liability company, limited by guarantee under the provision of the Lagos Stock Exchange Act of 1960. On June 5, 1961, the Lagos Stock Exchange opened for business with 19 listed securities made up of 3 equities, 6 Federal Government Bonds and 10 industrial loans. In 1977, the name of the Lagos Stock Exchange was changed to the Nigerian Stock Exchange by the indigenization Decree of 1977. As a result, six new trading floors of the Nigerian Stock Exchange were created in Kaduna (1978), Port-Harcourt (1980), Kano (1989), Onitsha (1990) and Yola (2002).

The need to have an organized Stock Exchange came up and committee was set up by the government under the chairmanship of Prof. R.W Barbock to consider the possibility of having indigenous forum for the acquisition and sales of shares and stocks.

- The Nigerian capital Market was established for the following reasons below:
- The offer local prospects and loaning for long term goal
- To overwhelmed the problems of marketing government stock
- To mobilize long term resources for economic growth and development.

In view of the above, the critical stakeholders in capital market are: government, quoted companies (listed companies), stock brokers, C.B.N, banking and non-banking financial institutions, Nigerian Stock Exchange, Nigerian Securities and Exchange Commission. The Nigeria capital market is sub-divided into primary and secondary markets. New securities are issued in the primary market and companies issuing these securities receive the proceeds for the sale. The secondary market provides a forum for the sale of existing securities by one investor to another investor. Thus, the efficient functioning of the market paves way for the primary market by making investors more willing to purchase new securities in anticipation of selling such in the secondary market. These securities are the main instrument used to raise resources at the capital market.

2.1.11. Functions of the Capital Market

The following are the roles of the Capital Market

- To raise fast funds
- It is a platform for mobilizing long-term monetary resources for industrialization and economy growth and development.
- The enlistment of savings from various economic units for growth and development of any country.
- It is platform for efficient settlement of debts
- The encouragement of a more efficient allocation of new investment through the pricing mechanism.
- It is an essential liquidness instrument for stakeholders through a formal market for debt and equity securities.
- The expansion of the ownership base of resources and the establishment of a robust private sector as well as the economy.

2.1.12. Capital Market Line

The capital market line (CML) is a type of chart, originating from the Capital Asset Pricing Model (CAPM). The CAPM is used to authorise a theoretically-suited necessary rate of return on an asset when it is about to be added to an existing and well-performing portfolio. The CML is used to fix the rate of return for certain efficient portfolios. This analysis is dependent upon the risk-free rate of return and the amount of risk involved in a particular portfolio. The Sharpe ratio, through certain calculations, represents the proportion of risk and extra return that a portfolio provides.

The portfolio which has the uppermost Share ratio is known as the market portfolio. Every portfolio included in the market portfolio is optimized for a certain amount of risk. The amount of risk related to the particular asset is considered with importance. According to the CAPM, the market portfolio represents the efficient frontier. The efficient frontier can be defined as an ingathering of portfolios. The market portfolio, when pooled together with the risk-free asset, is capable of producing a higher return than the efficient frontier. The consolidation of the market portfolio and the risk-free asset contributes to the CML. Professionals generally tend to have preference for CML over the efficient frontier because the CML considers the addition of a risk-free asset in the portfolio.

2.1.13. Capital Market Risks

The capital market risk usually describes the risk entangled in the investments. The stark potential of experiencing losses following oscillation in security prices is the rationale behind the capital market risk. The capital market risk cannot be expanded. The capital market risk is also known as the capital market systematic risk. While an individual is investing on a security, the risk and profits cannot be dispersed. The risk is the unified part of the project. The higher the possibility of profits, the higher the risk associated with it.

The examination of the capital market investment complicated is one of the prime aspects of investing. It can be easily said that the risk distinguishes an investment from the savings. The systematic risk is also common to the entire class of liabilities or assets. Depending on the economic changes the worth of investments can diminish tremendously.

There could be some other monetary affairs that might be controlling the investment markets. In order to cross examine the capital market risk, the asset distribution can be productive in some cases. Investment in stocks or bonds comes with the following types of risks;

- Market-Risk
- Industry-Risk
- Regulatory-Risk
- Business-Risk The market risk explains the whole risk involved in the capital market investments. The stock market rises and falls depending on a number of issues. The common view of the investors to put in money in a particular stock or bond plays an important role in the stock market rise and fall. Even if the company is doing well in business, the stock price may go up due to a rising stock market. While equally, the stock worth may fall because the market is not stable even if the financier's firm is doing well. Hence, these are the market risks that the stocks savers usually encounter.

The industry risk affects all the businesses of a certain industry. Hence the stocks within an industry fall under the industry risk. The regulatory risk may affect the investors if the saver's company comes under the obligation of government implemented new regulations and laws. The business risk may have emotional impact on the savers if the firm goes through some paroxysm depending on management, strategies, market share and labour force of the organization.

2.1.14. Capital Market Liberalization

Capital market liberalization, as a result of globalization and trade liberalization, refers to the diminishing of government limitations in the market. Not only government establishments, but also private organizations participate its functioning, and savers around the world are able to invest in the shares and bonds of other countries. Global economies, particularly in the developing countries, are opening their entrances to foreign investments and capital, thereby enhancing global competitiveness and since there is no nation that can survive on its own. Boundless movement of goods and services within and between nations results in an upsurge in the exchange of money, causing a positive effect on the capital market.

Non-tariff and tariff trade obstructions are eliminated and avoidable legislation and taxes are not imposed as a result. Not only do parties involved in a trade stand to benefit from the effects of liberalization, but gains in productivity and the boosting of the economy's general efficiency are also a result. As well as free access that can be obligatory to the market's figures, there is a broad absence of policies that obstruct trade and labour, and capital is allowed to move freely under the liberalized market. The development of open capital markets has been a perquisite globally and some economies have made massive progresses by removing trade restraints and exposing their markets. The whole capital market has now become a global common market, with globalization guaranteeing stress free exchange of goods and services for imports and exports. Organizations and businesses are able to gain foreign investments and, alongside with individuals, can obtain access to foreign goods and services.

2.1.15. Efficient Capital Market

An efficient capital market is a market where the share rates replicate new information precisely and in real time. Capital market efficiency is adjudicated by its attainment in adding and investing in information, generally about the basic worth of securities, into the rate of securities. This basic or ultimate value of securities is the present value of the cash flows projected in the future by the person owning the securities. The oscillation in the value of stocks inspire traders to trade in a competitive way with the goal of maximizing profit.

This fallouts in price movements towards the current value of the cash flows in the future. The information is very easily available at cheap rates because of the presence of organized markets and various technological innovations. An efficient capital market integrates data rapidly and precisely into the prices of securities. In the weak-form efficient capital market, figures about the history of foregoing revenues and prices are reproduced fully in the security prices; the proceeds from stocks in this type of market are irregular. In the partial strong-form efficient market, the public information is entirely revealed in security prices; in this market, those stockbrokers who have non-public data access can earn excess profits. In the strong-form efficient market, under no circumstances can financiers earn excess profits because all of the information is integrated into the security prices.

The resources that are rolling in capital markets, from financiers to the multinationals with the aim of financing projects, must flow into the best and top valued projects and, therefore, informational efficiency is of supreme significance. Stocks must be proficiently priced, because if the securities are priced precisely, then those financiers who do not have time for market analysis would feel assured about making investments in the capital market.

2.1.16. Capital Market and Economic Growth

It is general belief that, the capital market is projected to hasten economic growth by providing a helping hand to local savings and rising the quantity and the quality of investment. The market is likely to inspire savings by offering individuals with an extra financial instrument that may better meet their risk preferences and liquidity needs. The capital market also offers a platform for growing businesses to raise capital at lesser cost. The capital market therefore is able to impact positively economic development through inspiring savings among individuals and creating a platform for firm bankrolling. (Charles and Charles 2007).

Foregoing writers have made numerous actions to link the economy growth of capital market with development in the economy bearing in mind the role that sees the capital market funding the financial sectors of the economy from the financially excess sectors of the economy. (Levine 1991), in his own view, exposed that developed stock market decreases both liquidity shock and productivity shock of the financiers of investment funds as well as enhancing the production competence of the economy which therefore led to higher economic growth. Moreover, Tharavaniji (2007) assertion show that countries with higher capital market encounters less austere business cycle output, retrenchment and lower chances of an economic recession compared to those with less developed capital market. It does not follow that the development of capital market guarantees economic growth, but it avails the means to forecast into the future growth rate for capital, per capital income, productivity and or the Gross Domestic Product (GDP).

Kumar (1984), notes that the capital market adds value to economic growth through those specific services it implements either directly or indirectly. Prominent among the roles of the stock market are enlistment of savings, creation of liquidity, Risk specialisation, improved distribution and attainment of information and enhanced motivation for corporate control. At any stage of a nation's development, both the government and the private sectors would require long-term capital which is provided by a well-functioning capital market. Sule and Momoh (2009) specifying the channels for growth through the capital market opine that it provides opportunities for companies to borrow funds needed for long-term investment purposes.

Obstfelf (1994), notes that the capital market may also impact economic activities through the creation of liquidity. Liquidity equity market makes available savings for profitable investment that requires long-term commitment of capital. Without liquid capital market, there would be no industrial revolution. Since financiers would not be willing to invest in large, long-term project that depicted the early phase of industrial revolution.

However, another alternate view on capital market and long-term economic development by Demirguc- Kunt and Levine (1996) demonstrated that there are some ways through which liquidity can daunt growth: firstly, savings rate may be diminished, this happens when there is escalating returns on investment (ROI) through income and swap effects. As savings rate decreases and with the presence of externality attached to capital accrual, greater stock market liquidity could sluggish down the growth of the economy. Secondly, plummeting ambiguity connected with investment may have effect on savings rate, but the scope and the direction remain ambiguous. This is because it is a function of the degree of risk-averseness of economic agents. Thirdly, effective corporate governance often touted as an advantage of liquidity which equity can be disposed of may weaken financiers' commitment and serves as an impediment to corporate control and watchfulness on the part of financiers thereby negating their role of monitoring firm's performance. This frequently ends in delaying economic growth.

Rouseau and Wachtel (2000) advance four reasons for the significance of capital market on financial institutions even when equity issuance is a moderately inconsequential source of funds. First, an equity market provides financiers and businesspersons with a possible exit mechanism. According to them, project capital investments will be more heartening in countries where an equity market exists than one without sufficiently operational public equity market. Secondly, capital inflows and Portfolio flows be likely to to be loftier to countries with well-structured and liquid markets. Thus, the existence of equity markets expedites capital inflow and the capability to finance current account deficits. Thirdly, the provision of liquidity through systematized exchanges boosts both international and local businessmen to allocate their surpluses from short term assets to the long-term capital market, where the funds can offer access to permanent capital for firms to finance large, indivisible projects that enjoy substantive scale economies. Thus, given this situation the impact of domestic resource enlistment cannot be undervalued. Finally, the existence of a stock market provides vital data that improves the efficiency of financial intermediation generally.

2.1.17. The Nigeria Capital Market

The capital market is foundation of every financial structure since it offers the resources needed for financing not only businesses and other economic institution, but also the program of government as a whole. The capital market is principally a marketplace for long term securities that is stock debenture and bonds lasting for usually longer than three years.

The capital market is seen as a multifaceted institution instilled with intrinsic mechanism through which long term capitals of the major sector of the economy comprising households, forms and government are mustered, harnessed and made available to various sectors of the economy (Nyong 1997). The improvement of the capital market and ostensibly the stock market offers prospects for better funds enlistment, improved efficiently in resource apportionment and provision of suitable data for evaluation (Inanga and Emenuga, 1997).

According to Adebiyi (2005) Equity markets in emerging economy until the mid-1980s generally struggle from the classical imperfections of bank dominated economics that are shortage of equity capital, lack of liquidity, absence of foreign financiers, and lack of investor's confidence in the stock market. The significance of capital market lies in its financial extreme capacity to connect the deficit sector with the surplus sector of the economy. The absence of such aptitude deprives the economy of investment and manufacturing of goods and services as well as non-provision of the necessary facilities to drives investors and encourage economy improvement.

Akingboungbe (1996) states that resources could thereby be idle at one end, while being sought at the other end in quest of socio-economic growth and expansion. The funding constraint of corporate organizations and government agencies are often enormous, at times resulting into trillions of naira for project financing and debt servicing. It is therefore, usually difficult for those bodies to meet such funding requirement solely from in internal sources, hence the need to always look-up to the capital market. Which is the ideal platform that enables corporate organizations and government to pool out resources from the public and institutions. Thus, the socio-economic role of the capital market is well recognized. "It does not only encourage and mobilize savings but also efficiently allocate such savings to areas of need" (Ekineh, 1996). www.ijird.com

2.1.18. The Nigerian Securities and Exchange Commission

The Nigerian Securities and Exchange Commission (NSEC) is the apex institution for the regulatory and monitoring of the Nigerian capital market. The commission was established under the security and exchange commission decree 1979, operating retrospectively from April 1978. Prior to the Securities and Exchange Commission (SEC), two bodies had in succession been responsible for the monitoring of capital market activities in Nigeria. The first was capital issues committee which operated between 1962 and 1972. The next body was the capital market issues commission (CIC) which came into being in March 1973. The C.I.C, unlike its predecessor, had full powers to fix the price, timing and volume of security to be issued. Despite this wider power, the CIC could not be seen as the apex of capital market because it concerned itself with public 16 companies alone and its activities did not cover the stock exchange and government securities. The enabling Act of the (SEC) specifies its over-riding objectives as investors' protection and development while its roles were divided into two regulatory and development.

The roles of the commission are broadly spelt out in Nigeria Securities and Exchange Commission Decree (Decree No 29) of 1983 and the Nigerian Enterprises Promotion Decree 1990. According to section (6) subsection (9) to (10) the commission is charged with the following responsibilities and roles.

- Defining the value and time when securities of firms are to be sold to the public either through public offer for sale or subscription.
- Recording all securities proposed to be offered for sale to or for subscription to the public.
- Maintaining surveillance over the securities market to ensure orderly, fair and equitable dealing in securities.
- Guarding the reliability of the security market against any exploitations arising from the practice of insider trading.
- Acting as regulatory apex organization for the Nigerian capital market including the Nigerian Stock Exchange and its branches to which it would be at liberty to delegate authority.
- Maintaining conducive atmosphere for the organized growth and development of the capital market.
- Studying, evaluating, approving and regulating merger acquisition and all forms of business amalgamation.
- Process Stock Exchange or their branches, registers investment advisers, securities dealers and their agents and controlling and supervising their activities with a view to upholding appropriate standards of conduct and professionalism in the securities business.
- Undertaking such other activities as are obligatory or expedient for giving fall effect to the provision of this decree.

2.1.19. Assessment of the Nigeria Capital Market

According to Goddy (2008), the Nigerian capital market would be scrutinized using a number of variables. The variables include:

- Equity Market Capitalization: these measures the amount of wealth held in securities and it is an indication of the financial base of the market.
- Trading Value and Liquidity: it indicates the level of activities that is the rate of which securities are bought and sold as well as its liquidity.
- All Share Index: it started with an index value of 100 in 1984 with increase listings and financial activities
- Market Infrastructures: the introduction of the Central Securities Clearing System (CSCS) by the Nigerian
- Securities Exchange Commission (NSEC) has enhanced efficiency of the market. The introduction of new clearing and settlement period has improved transparency and brought the stock market in line with internationally acceptable standard.

The Nigerian Capital market could be assessed as having performed fairly well in spite of the several trials and difficulties some of which include the acquisition and grip boldness of Nigerians, vast inexperience of a large population of the Nigerian public, the nature and benefits of the capital market, few investment outlets in the market, lack of capital market friendly economic policies and political volatility, private sector led economy and less than full operations of recent developments.

2.2. Theoretical Review

Under this sub-section various theories of economic growth have been reviewed among which includes;

2.2.1. Solow-Swan Growth Theory

The neoclassical growth theory also known as the Solow-Swan growth theory or exogenous growth theory is a class of economic model of long-run economic growth. The growth theory explains long-run economic growth by looking at productivity, capital accumulation, population growth and technological progress (Solow & Swan, 1956). This theory was developed independently by Robert Solow and Trevor Swan in 1956 and supersedes the post Keynesian Harrod–Domar theory. Due to its attractive mathematical characteristics, Solow-Swan proved to be a convenient starting point for various economic growth theories.

<u>2.2.2.Harrod – Domar Growth Model</u>

Harrod-Domar (1946) work suggests that growth be determined by the quantity of labour and capital and that more savings leads to capital build-up, which help economics growth. In economically less developed countries, labour is in an ample quantity in these countries but real money is not, thereby slowing the economic growth process. This theory is an early post Keynesian economic growth. It is used in explaining an economy's growth rate in terms of the level of saving

and productivity of capital. The theory also suggests that there is no accepted cause for an economy to have a balanced growth. The theory was developed autonomously by Roy F. Harrod in 1939 and EvseyDomar in 1946, the theory was the predecessor to the exogenous growth theory.

2.2.3. Arrow Kenneth Growth Theory

Kenneth (1962) opines that endogenous growth theory is about investment in human capital, size of capital stock, innovation and knowledge. All these are significant contributors to economic growth. The theory focuses on positive externalities and spill-over effect of a knowledge-based economy which will lead to economic development. Endogenous growth has an impact on the long-term growth rate of an economy. This theory was developed by Arrow Kenneth (1962), it further improves the work of other scholars like Harrod-Domar (1946), Solow – Swan (1956) by looking at investment in technology and knowledge as the major factors of economic growth.

2.2.4. Paul Romer Growth Theory

Romer (1986) views creation of knowledge as a side product of investment and he takes knowledge as an input in the production functions of firms. His theory sees new knowledge as the ultimate determinant of long-run growth which is determined by investment in research technology. To Romer, ideas are more important than natural resources. Therefore, ideas are essential for the growth of an economy.

2.3. Empirical Literature

The connection between capital market and economic growth has been empirically examined by researchers in both locally and internationally

2.3.1. Empirical Review on Other Countries

The first broad study on the tie between capital market development and economic growth; according to Levine (1997), was embarked upon by the World Bank Research Group. They examined the sociability of stock market development with financial mediators and economic growth and resolved that stock market development is absolutely interrelated with the development of financial mediators and long-term economic growth. Levine (1997), endorses that capital market can enhance economic activity through the formation of liquidity while, Obstfeld (1995) recognizes risk diversification through universally incorporated stock market, as another medium through which stock market can raise capitals and impact growth.

Mishra, et al (2010) examines the effect of capital market efficiency on economic growth of India using the time series data on market capitalization, total market turn-over and stock price index over the period straddling from the first quarter 1991 to the first quarter of 2010. Their study reveals that there is a relationship between capital market efficiency and economic growth in India. Bolbol et al (2005), point out that capital market development has improved the fiscal growth of Egypt.

The World Bank (1994) established that stock market development does not simply follow fiscal development, but offers the platform to predict future proportions of growth in capital, productivity and per capita GDP. Tharavaniji (2007), detects that countries with weightier capital market faces less austere business cycle output retrenchment and lower chances of economic downturn compared to those with less developed capital market.

Demetriades, et al (2001) applied time-series data from five developed countries, to scrutinize the relationship between stock market and fiscal growth, directing for other effect of the banking system and stock market instability. Their result supports the view that, although banks and stock market may stimulate financial growth, the effect of bank is more. They suggested that the role of stock market to economic growth may have been overstated by scholars that uses cross country regressions.

Nieuwerburgh, et al (2005) examined the long-term affiliation between capital (stock) market development and economic growth in Belgium. Their outcome shows that, the capital market is the major sources of economic growth in Belgium

2.3.2. Empirical Review

Adebiyi, M.A. and Akinbohungbe, S.S. (2014), extremely and experimentally scanned the causal relationship between stock market and economic growth in Nigeria from1970 to 2004. The pointer of the stock market development used are market capitalization ratio, total value traded ratio and turnover ratio while the growth rate of GDP is used as substitution for financial growth, using Granger causality (GC) test, the experiential evidence found from the estimation process suggests a bi-directional causality between turnover ratio and financial growth. The result of the causality test is sensitive to the choice of variable used as proxy for stock (capital) market. Overall, the result of the GC test suggested that capital market drives economic growth.

Ewah et al (2009), assessed the influence of capital market efficacy on economic growth in Nigeria, using times series data on market capitalization, money supply, interest rate, total market transaction and government development stock that ranges from 1961 to 2004. The outcome of the research indicates that the capital market in Nigeria has the possibilities of growth heartening, but it has not added profoundly to the economic growth of Nigeria because of low market capitalization, low absorptive ability, illiquidity, embezzlement of funds among others.

Akinbohungbe (1996) and Adebiyi (2005) have argued freely that the capital market plays a significant role to the growth, development and strength of any country because it provides the needed supports for government and corporate enterprises, finance new discoveries and facilitates the management of financial risks. The rate of economic growth has

been interrelated to the complexity of the financial market and capital market efficiency. According to Okereke- Onyiuke (2000), the capital market has been a sustainable source of financing both state and local government infrastructural projects and development strides with less pressures and lean on resources.

Adamu and Sanni (2005), examine the objectives of the stock market on Nigeria's economic growth, using Granger-causality test and regression analysis. They were able to come up with a one-way causality between GDP growth and market turnover. They also detected an optimistic and significant correlation between GPD growth and market turnover ratios. The writers counselled the government to boost the development of capital market since it has a positive impact on economic growth. Chinwuba and Amos, (2011), scrutinise the influence of the Nigerian capital market performance on the economic development of Nigeria by using the Ordinary least Square regression model. The result shows that the performance of the capital market impact positively on the economic growth of Nigeria.

Osinubi and Amaghionyeodiwe (2003) examine the relationship between Nigeria stock market and economic growth during the period 1980 to 2000, using Ordinary least square regression. The results show that there is a positive relationship between the stock market development and economic growth. They therefore suggested that government should pursue policies that are geared toward rapid development of the stock market. Abu (2009), examines whether stock market development raises economic growth in Nigeria, by employing the Error Correction Approach. The econometric results indicate that stock market development raises economic growth. He however encouraged SEC to facilitate the growth of the market, restore the confidence of stock market participants and safeguard the interest of shareholders by checking sharp practices of market operators.

Obamiro (2005), scrutinizes the objectives of the Nigeria stock market in the pathway of economic growth. He testified a significant positive outcome of stock market on economic growth. Additionally, Agarwal (2001) argues that financial sector development facilitates capital market development, and in turn raises real growth of the economy.

Similarly, kolapo and Adaromola (2012), found that Nigerian capital market development has significant relationship with economic growth, just as Abdullahi (2005), agrees that capital market development in Nigeria is an engine to her economic growth.

2.4. Theoretical Framework

The theoretical framework for this study is based on Arrow Kenneth and Paul Romer growth theories explained below;

2.4.1. Arrow Kenneth Growth Theory

Kenneth (1962) opines that endogenous growth theory is about investment in human capital, size of capital stock, innovation and knowledge. All these are significant contributors to economic growth. The theory focuses on positive externalities and spill-over effect of a knowledge-based economy which will lead to economic development. Endogenous growth has an impact on the long-term growth rate of an economy. This theory was developed by Arrow Kenneth (1962), it further improves the work of other scholars like Harrod-Domar (1946), Solow – Swan (1956) by looking at investment in technology and knowledge as the major factors of economic growth.

2.4.2. Paul Romer Growth Theory

Romer (1986) views creation of knowledge as a side product of investment and he takes knowledge as an input in the production functions of firms. His theory sees new knowledge as the ultimate determinant of long-run growth which is determined by investment in research technology. To Romer, ideas are more important than natural resources. Therefore, ideas are essential for the growth of an economy.

Nigeria being a typical example of an imperfect market with over one hundred and sixty (160 million) million people and over 80% of its land mass suitable for agricultural production, the country promises to be a very good market for investors with huge skill human resources, land advantage on which foreign firms can capitalize on so as to expand their businesses and make greater profits.

2.4.3. Research Gap and Theoretical Framework

In summary, the literatures reviewed so far have revealed some gaps to be filled. One of such gaps is that from the studies reviewed in the literature, nobody has investigated the relationship between volatility of the capital markets and cross Boarder investment in Nigeria with any quantitative analysis. In the light of the above, there is need for stronger empirical evidence on the relationship between volatility of capital markets and cross Boarder investment in Nigeria. It was also observed that there are various factors that influence volatility in the financial market such as inflation, changes in interest rates, economic variables. The dearth of much empirical work done on this area of study, the need to close this gap claim the attention of this study. In attempting to fill this gap, the theoretical underpinning of this research therefore, is basically the Arrow Kenneth growth theory as well as Paul Romer growth theory, as it recognizes the importance of human capital and knowledge in the workings of the economy.

3. Research Methodology

This chapter is concerned with the presentation of research methodology employed in the study that is the acquisition of relevant data and analyzing the data using appropriate statistical tools. Definition and measurement of variables used in the study is also captured. The data, data sources, data collection and how the data was analyzed are also explained.

3.1. Research Design

This study is aimed at analyzing the effect of cross border investments on financial market with focus on the Nigerian capital market. The research design for this study is ex-post facto. This is so because secondary data obtained from World Bank Development Indicators, Central Bank of Nigeria, National Bureau of Statistics, Journals and Internet sources were used in the study. The study employed the econometric procedure of data analysis.

3.2. Data Collection Method and Source of Data

This paper relied on secondary data (time series data), to empirically investigate the effect of cross border investments on the Nigerian capital market, based on data covering the period 1980 to 2018 which includes data on Market Capitalization in the Nigerian Capital Market, Foreign Portfolio Investment in Nigeria, Degree of Trade Openness and exchange rate. The secondary sources of data or information are with respect to existing literature, research reports, and government documents etc. These secondary sources of data for this study were sought through the following sources, including World Bank Development Indicators, Central Bank of Nigeria (CBN) statistical Bulletin and the National Bureau of statistics (NBS) publication. They provided annual times series data on the variables used for the study. Estimate shall be within Stata 15 econometric software.

3.3. Model Specification

In order to attain the goals of the study, the study adopted the linear regression model from the empirical analysis done by Adebiyi, M.A. and Akinbohungbe, S.S. (2014). We therefore specify the model thus;

```
MCAP = f(FPI, DOP, EXR)
Where;

MCAP = Market Capitalization
FPI = Foreign Portfolio Investment
EXR = Exchange rate
DOP = Degree of Trade Openness
In stochastic form equation (1) becomes:

MCAP = a_0 + a_1 FPI + a_2 DOP + a_3 EXR + U_t
Where;

a_0 = the intercept of the regression line
a_1, a_2, a_3 = the slope of the regression line
U_t = error term or stochastic element
(1)
```

3.4 .Reliability and Validity of the Instruments

Validity is defined as the degree to which a measuring instruments measures what it is designed to measure while reliability is reliability is known as the consistency between independent measurements of the same phenomenon (Ofuebe, 2002). These secondary sources of data for this study were sought through the following sources, including World Bank Development Indicators, Central Bank of Nigeria (CBN) statistical Bulletin and the National Bureau of statistics (NBS) publication. They provided annual times series data on the variables used for the study. All these sources have approved to be reliable by other scholars and that has also validated the research

3.5. A Priori Expectation

This refers to the signs and the size of the parameter of the regression model. The assumptions of an a priori argument are axioms which have been assumed. In this study it is expected that parameters a_1 and a_3 of FPI and EXR are expected to appear with a positive sign since FPI and EXR has a positive relationship with Market Capitalization. Parameter a_2 of DOP is expected to appear with a negative sign because DOP has negative relationships with Market Capitalization.

• Reliability and Validity of Instruments

3.6. Estimation Techniques

The ordinary least squares (OLS) which is a best linear and unbiased estimator will be used for the study. The signs of the coefficients will be used to assess whether the variables correspond or not to the a priori expectations. The magnitude of the coefficients will be used to assess the various elasticities.

3.7. Justification of Estimation Techniques

Ordinary least squares (OLS) regression technique is used and the normal liner regression equation of the line is used. This will enable us ascertain the veracity of our model and will enable use determine the explanatory power our variables. The choice of the OLS for the study is channeled by the fact that its computational process is simple and the estimations got from this process have best properties which include linearity, un-biasness, minimum variance, and mean square error estimation.

3.8. Analysis Based on Statistical Criterion

3.8.1. Coefficient of Determination (\mathbb{R}^2) and Adjusted \mathbb{R}^2 ($\overline{\mathbb{R}}^2$)

This describes the aggregate discrepancy in the dependent variable as a result of variations in the explanatory variables included in the model. The R² is the test of goodness of fit. The R² can take any value, however, 50% and is considered appropriate as it shows a strong explanatory power of the regressors. The adjusted R² (\overline{R}^2) for degree of freedom (d.f) utilized for variable selection will be used to assess the inclusion or exclusion of variables in the model.

<u>3.8.2.F test</u>

The F test is used to test the overall significance of the model. The F test is used to test the validation or invalidation of the null hypothesis.

Decision rule of the F test:

- If F-calculated > F- critical, we invalidate the null hypothesis
- If F-calculated < F- critical, we validate the null hypothesis

<u>3.8.3. T test</u>

The t test is used to test the significance of each independent variable in explain the changes in the dependent variable. It is therefore used to test the specific hypothesis.

Decision rule of the t test:

- If t- calculated > t- critical, we reject the null hypothesis, signifying that the particular independent variable is statistically significant in explaining the changes in the dependent variable.
- If t- calculated < t- critical, we don't reject the null hypothesis, signifying that the particular independent variable is statistical insignificant in explaining the changes in the dependent variable.

3.8.4. Durbin Watson (DW) test

The Durbin Watson statistics is used to test the presence or absence of first order serial correlation in the model. Decision rule for the Durbin Watson test:

- DW calculated > 2 Negative serial correlation
- DW calculated < 2 positive serial correlation
- DW calculated = 2 No serial correlation

3.8.4. Unit Root Test

Unit root tests are tests for stationarity in a time series. A time series has stationarity. If a shift doesn't cause a change in the shape of the distribution, unit roots are one cause for non-stationarity. These tests are identified for having small statistical control. Many tests exist, in part, because none stand out as having the most power. Tests include:

The Dickey Fuller Test (sometime called a Dickey Pantula test) which is based on linear regression serial correlation can ban issue, in which case the Augmented Dickey –Fuller (ADF) test can be used. The ADF handles bigger, more complex models. It does have the downside of a fairly high Type 1 error rate.

The Elliott – Rothenburg – Stock Test which has two subtypes

- The P- test takes the error term serial correlation into account.
- The DF -GLS test can be applied to detrended data without intercept

The Schmidt – Philips Test includes the coefficients of the deterministic variables in the null and alternate hypotheses. Subtypes are the rho-tess and the tau-test

Phillips – Perron (PP) Test is the modification of the Dickey Fuller test, and corrects for autocorrelation and heteroscedasticity in the errors.

The Zivot -Andrews test allows a break at an unknown point in the intercept or linear trend.

3.8.5. Testing for Cointegration

This test identifies stable, long-run relationships between sets of variables. According to Rao (2007) observe that if the test fails to find such a relationship, it is not proof that one does not exists, that is, it only suggests that one does not exist.

There are three most popular tests under cointegration test are:

Engle-Granger: It constructs residuals (error) based on the static regression. The residuals are tested for the presence of the unit roots using ADF or similar test. If the time series is cointegrated, then the residuals will be practically stationery. A major challenge with the Engle-Granger method is that of the choice of the dependent variable that may lead to different conclusion (Armstrong, 2001), an issue corrected by more recent tests such as Phillips-Ouliaris and Johansen's

- H₀: No cointegration exists
- H₁: Cointegration exists

This test is us performed by software such as MATLAB or STAT

Phillips-Ouliaris: The Phillips-Ouliaris (1990) is a residual-based root test. It is an improvement over the Engle-Ganger test; Prior to 1987, tests for cointegration worked on the assumption that regression errors are independent with common variance—which is rarely true in real life (Chaovalitwongse et. al, 2010).

• H₀: No cointegration exists

• H₁: Cointegration exists

The Philips-Ouliaris test takes supplementary variability into account

The tests are also invariant to normalization of the cointegration relationship (i.e., which variable is counted as the dependent variable

Johansen test: This is another improvement over the Engle-Granger test. It avoids the issue of choosing a dependent variable as well as issues created when errors are carried from one step to the next. This can detect multiple cointegration vectors.

2.8.6. Error Correction Model (ECM)

The error correction model is a short-run model that incorporates a mechanism which restores a variable to its long-term relationship from a disequilibrium position.

It is also applicable when the key performance indicators (KPIs) are cointegrated, there must be ECM that can describes the short run dynamics of the cointegrated variables towards their long run equilibrium values.

ECM links the long-run equilibrium relationship between two time series implied by cointegration with the short-run dynamic adjustment mechanism.

When the KPIs are cointegrated, there must be an ECM that describes the short run dynamics of the cointegrated variables towards their long run equilibrium values.

4. Presentation of Results and Discussion of Findings

The study examines the effect of cross border investments the Nigerian capital market. Descriptive statistics, Correlation Matrix and Trends analysis of variables used in the study was carried out using the line graph. Estimation of the effect of cross border investments on Nigeria Capital market was also analyzed in this chapter using the Error Correction Model (ECM) regression employing Stata 15.

4.1. Descriptive Statistics and Trend Analysis of the Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
MCAP	39	15531.94	33824.39	5.5	98683
FPI	39	517.15	708.91	5.23	2350
DOP	39	0.4968	0.1633	0.2360	0.8181
EXR	39	90.97	95.54	0.55	324

Table 1: Descriptive Statistics

Source: Researcher's Computation Using Stata 15

Table 1 above shows that the mean of Market Capitalization (MCAP), Foreign Portfolio Investment (FPI), Degree of Openness (DOP) and Exchange Rate (EXR) were 15531.94, 517.15, 0.4968 and 90.97 respectively. Given this we can conclude that the average Market Capitalization, Foreign Portfolio Investment, Degree of openness and exchange rate were high between 1980 and 2018. The minimum, maximum and standard deviation values of the variables are shown in the table.



Figure 1: Line Graph of Time Series Data on MCAP, FPI, DOP and EXR. Source: Researcher's Computation Using Microsoft Excel

4.2. Presentation of Unit Root Results

The Augmented Dickey Fuller (ADF) unit root test was employed to test for stationarity of all the macroeconomic variables used for the study. The results are presented on the table below:

Variable	P-value@ level	t-statistic @first Difference (5%)	P-value @ 1 st Difference	Critical Value (5%)	Order of Integration
LMCAP	0.9870	-6.552	0.0000	-3.668	I(1)
LFPI	0.8577	-6.662	0.0000	-3.668	I(1)
LDOP	0.3452	-7.926	0.0000	-3.668	I(1)
LEXR	0.3549	-5.210	0.0000	-3.668	1(1)

Table 2: Unit Root Test Result Using Augmented Dickey Fuller (ADF)

Source: Extract From Computer on Regression of Data Using Stata Version 13

The decision rule here is that when the t-statistics is greater than the critical value at 5% significance level and the probability value (P-Value) is less than 0.05, it shows that the variable is stationary at level otherwise the difference is taken until it becomes stationary.

The results show that all the variables tested were not stationary at level but were stationary only at first difference. The t-statistic values of all the variables are all less than the critical values at the standard 5% significant level and their probability values were greater than 0.05. The fact that the variables were not all stationary at level however connotes the existence of unit root and indication for co-integration. Therefore, in order to avoid the misinterpretation bias that comes with analyzing co-integrated variables using the Ordinary least square estimation technique, the study tested for cointegration.

4.3. Augmented Engle-Granger Test for Cointegration

Engle-Granger estimation technique is employed to test for co-integration which entails predicting the residual of the model and testing for unit root. Again, the residuals of the regression for the model are tested using the Augmented Dickey Fuller and the results are shown below:

Variable	Coefficient	t-statistic	P-value	Critical Value @ 5%	Order of Integration
Residual of	-0.6889	-2.452	0.675	-4.399	Not Stationary
LMCAP Model					

Table 3: Augmented Engle-Granger Test on the Residual of the ModelSource: Extract from Computer on Regression of Data Using Stata Version 13, (2019)

The decision rule in using Engle-Granger estimation technique is that when the result of unit root test of the residual for the model is not stationary at levels, it indicates absence of cointegration.

The results of the unit root of the residual shows that it was not stationary at level. This implies that there exist no cointegration and hence no need for the Fully Modified Ordinary least square (FMOLS) estimation technique, since the OLS estimation technique will not be biased in estimations. We proceeded to error correction using the Engel and Granger two-step Error Correction Model. The result is presented below;

4.4. Error Correction Model (ECM)

4.4.1. Engle-Granger 1st – Step Regression

	Variables	Coefficients	T-statistics	Critical Value @5%	Probability
	С	-1.5508	-2.69	-2.53	0.011
	LFPI	0.4573	4.01	0.23	0.000
	LDOP	-2.3695	-4.21	-3.33	0.000
	LEXR	1.0868	7.19	0.67	0.000
ſ	$P_{2} = 0.89$ Adjusted $P_{2} = 0.88$ E Statistic = 12.55 Prob E=0.0000 Dw = 2.02				$D_{147} = 2.02$

 = 0.89 |
 Adjusted R² = 0.88 |
 F-Statistic = 13.55 Prob>F=0.0000 Dw = 2.03

 Table 4: Engle-Granger 1st – Step Regression Result for Lmcap Model

Source: Computation by Researcher Using Stata 15

4.4.2. Engle-Granger 2nd – Step Regression (ECM)

Variables D.LMCAP	Coefficients	T-statistics	Probability
С	0.2312	2.56	0.015
Dlog(FPI(-1)	0.1443	1.54	0.133
Dlog(DOP(-1)	-0.3094	-0.91	0.368
Dlog(EXR(-1)	-0.0328	-0.12	0.903
Ecm (-1)	-1.2503	-4.31	0.000

Table 5: Engle-Granger 2nd-Step Regression Result for MCAP ModelSource: Computation by Researcher Using Stata 15

The result in Table 4 above shows that the explanatory power of the model is 89% as shown by the R² value. Though the significance of the entire model is also confirmed by the f-statistics value of 13.55, the absence of serial autocorrelation or heteroscedasticity was also confirmed as the Durbin Watson statistics of 2.03 was less than the coefficient of determination and the required value of between 1.9 and 2.1. The F-statistic probability value of 0.0000 indicated that FPI, DOP and EXR are important factors to be considered when explaining the changes in the MCAP.

Also, from the regression analysis above, the Coefficient of Determination (R^2) of 0.89shows that at about 89% of variations in the MCAP are explained by the independent variables, meaning that only 11% of the variations in MCAP are explained by other variables not included in the model. This shows a very strong determination of the model.

4.5. Discussion of Findings

From the results above, a positive relationship exists between MCAP and FPI. A negative relationship exists between MCAP and EXR and DOP. This means that a unit changes in FPI will cause an increase in Market Capitalization (MCAP) of 0.1443. A unit change in DOP and EXR will result to a decrease in MCAP by 0.3094 and 0.0328 respectively. Again FPI, DOP and EXR with probability value of 0.133, 0.368 and 0.903 greater than 0.05 are not significant determinant of MCAP. This result is important on the effect of Cross Border Investment on the Nigeria Capital Market. An increase in FPI at favourable exchange rate will enhance market capitalization in the Nigerian capital market and hence economic growth and development of the nation.

4.6. Evaluation of Hypotheses

At this point, it is important to evaluate the research hypotheses which are guiding this research work. The hypotheses stated in chapter one is as follows;

- H₀: There is no significant relationship between foreign portfolio investments and market capitalization of the capital market.
- H₀: There is no significant relationship between trade openness and market capitalization of the capital market.
- H₀: Exchange rate has no significant effect on market capitalization of the capital market.

The Probability value of 0.000 for FPI in the regression result in the long run which is less than 0.05 at 5% significance level indicated that FPI is a significant determinant of MCAP. We therefore reject the null hypothesis and uphold that FPI is a significant determinant of MCAP.

The Probability value of 0.000 for DOP in the regression result in the long run which is less than 0.05 at 5% significance level indicated that DOP is a significant determinant of MCAP. We therefore reject the null hypothesis and uphold that DOP is a significant determinant of MCAP.

The Probability value of 0.000 for EXR in the regression result in the long run which is less than 0.05 at 5% significance level indicated that EXR is a significant determinant of MCAP. We therefore reject the null hypothesis and uphold that EXR is a significant determinant of MCAP.

5. Summary, Conclusion and Recommendations

5.1. Summary of the Study

This study was carried out to determine the effect of cross border investments on the Nigeria capital market between 1980 and 2018. Chapter one introduced the study by providing a background to the study, stating the problem identified, presenting the aim and objectives of the study, formulated hypothesis, explaining the significance and scope of the study. In addition, chapter two of the study covered the literature review. Basically, the chapter covered theoretical literatures upon which the subject matter is based on. Chapter two reviewed other studies carried out by other scholars on the subject matter: their methods and their findings as well as some critique of these findings. The empirical review revealed that some authors argued that monetary policy is positively related to economic growth, while some authors argued that it is negatively related. Literatures reviewed were also evaluated in chapter two. Equally, in chapter three, the researcher was able to point out the method of the study. The research design used was ex-post facto while the study area was in Nigeria. The model specifications were multiple linear regression models while the sources of data were from the World Bank Online Data Bank, Central Bank. Data collected were analyzed using Stata version 15 Econometric software. Chapter four was dedicated to the analysis of data. The result of the trend and regression analysis conducted were interpreted and discussed accordingly.

This chapter summarized the major findings made as interpreted in the preceding chapter. The policy implications of the findings will also be presented in this chapter. The researcher will also endeavour to draw conclusions on this study and make necessary recommendations for policy makers and other players in the Nigerian economy.

5.2. Summary of Findings

The following are the findings of the study:

- A positive and significant relationship exists between Market Capitalization (MCAP) in the Nigerian Capital Market and Foreign Portfolio Investment (FPI) while a negative and significant relationship exists between market capitalization and degree of openness (DOP) and exchange rate (EXR).
- A change in Foreign Portfolio Investment will cause an increase in Market Capitalization (MCAP) and a change in degree of openness of the economy and exchange rate will cause a decrease in MCAP.
- Increase in Foreign Portfolio Investment (FPI) over the years have impacted significantly on the growth of Nigerian Capital Market as shown in the result.

- The analysis conforms to the economic postulations of the apriori expectation that inflow of foreign portfolio investment has a significant impact on market capitalization of the capital market and hence economic growth of Nigeria.
- The trade openness and exchange rate which has a negative relationship with MCAP accounted for the volatility in the global financial market. It implies that stringent measures should be put in place to regulate certain trade inimical to economic growth.

5.3. Concluding Remarks

The study reveals that the cross-border investments impact on capital market and economic growth via market capitalization. This has become important given the significant role played by the capital market in generating the desired level of investment which impact directly on economic growth. As it was observed from the results, a positive relationship exists between Market Capitalization (MCAP) in the Nigerian Capital Market and Foreign Portfolio Investment while a negative relationship exists between market capitalization, exchange rate and degree of openness (DOP). This implies that increase in Foreign Portfolio Investment (FPI) over the years of study have impacted significantly on the growth of Nigerian Capital Market and indirectly on economic growth through investment. Trade openness and exchange rate which has a negative relationship with MCAP accounted for the volatility in the global financial market. It implies that stringent measures should be put in place to regulate certain trade inimical to economic growth.

The capital market remains one of the mainstreams in every economy that has the power to influence or impact economic growth. Government is therefore advised to put up measures to stem up investors' confidence and activities in the market and more foreign investors should be encouraged to participate in the market for improvement in market capitalization so that it could contribute significantly to the Nigerian economic growth.

5.4. Recommendation/Policy Recommendation

Based on the findings from the empirical analysis, the study proffers the following recommendations:

- A major policy implication or recommendation of the result of this research is that intensive effort should be made by policy makers to create conducive environment that will attract more foreign investment into our capital market which will increase the level of investment and economic growth in Nigeria.
- Monetary and Fiscal policy measures that will keep the naira exchange rate low and stabilise the financial sector should be instituted to boost market capitalization and investment in Nigeria.
- Government policies on trade liberalization should be regulated to achieve favourable terms of trade that will enhance growth.

5.5. Contribution to Knowledge

This study through its findings has exposed the fact that positive relationship exists between foreign portfolio investment and market capitalization of the Nigerian capital market. The study further shows that trade openness which a priori should have a positive relationship with market capitalization in line with foreign portfolio investment exhibited a negative relationship.

5.6. Recommendation for Further Study

Having carried out this study on the impact of cross border investments on the Nigerian capital market, further studies should be carried out on the impact of cross border investments on other financial sectors using ARCH/GARCH in the analysis.

6. Abbreviations and Acronyms

- ADF Augmented Dickey Fuller
- AMC Asset Management Company
- ATM Automated Teller Machine
- ATS Automation of the Trading System
- CAPM Capital Asset Pricing Model
- CSCS Central Security and Clearing System
- CBN Central Bank of Nigeria
- CIBN Chartered Institute of Bankers of Nigeria
- CIC Capital Market Issues Commission
- CML Capital Market Line
- DMO Debt Management Office
- DOP Degree of Trade Openness
- DW Durbin Watson
- ECM Error Correction Model
- ETF Traded Funds
- EXR Exchange Rate
- FDI Foreign Direct Investments
- FGN Federal Government of Nigeria
- FPI Foreign Portfolio Investments

- GC Granger Causality
- GDP Gross Domestic Product
- ICT Information Communication Technology
- IMF International Monetary Fund
- IOSCO International Organization of Securities Commissions
- ISA Investment and Securities Act
- KPI Key Performance Indicator
- NASDAQ American Stock Exchange
- NBS National Bureau of Statistics
- NIBOR Nigerian Inter-Bank Offer Rate
- NSE Nigerian Stock Exchange
- NSEC Nigerian Securities Exchange Commission
- MCAP Market Capitalization
- MPC Monetary Policy Committee
- OLS Ordinary Least Squares
- OMO Open Market Operation
- PP Phillips Perron
- SEC Securities and Exchange Commission
- SSM Second-Tier Securities Markets
- SAP Structural Adjustment Program
- TQM Total Quality Management

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Appendix

YEAR	EXR	DOP	FPI	MCAP		
1980	0.55	0.48571	5.24	6.58		
1981	0.62	0.48293	5.23	6.29		
1982	0.67	0.37748	5.24	7.71		
1983	0.72	0.27037	5.25	9.64		
1984	0.77	0.23609	5.26	7.25		
1985	0.89	0.259	5.27	5.7		
1986	1.75	0.23717	5.28	5.5		
1987	4.02	0.41647	5.29	6.6		
1988	4.54	0.35312	5.3	6.8		
1989	7.36	0.60392	5.31	8.2		
1990	8.04	0.5303	5.32	10		
1991	9.91	0.64877	5.33	12.8		
1992	17.3	0.61031	5.34	16.3		
1993	22.07	0.5811	5.35	23.1		
1994	22	0.42309	5.36	31.2		
1995	21.9	0.59768	5.37	47.5		
1996	21.88	0.57691	5.38	66.3		
1997	21.89	0.7686	5.39	180.4		
1998	21.89	0.66173	5.4	185.8		
1999	92.34	0.55846	5.41	285.8		
2000	101.7	0.71381	5.42	281.9		
2001	111.23	0.81813	5.43	262.6		
2002	120.58	0.63384	452	300		
2003	129.22	0.75219	452	472.3		
2004	132.89	0.48448	452	662.5		
2005	131.27	0.50749	452	764.9		
2006	128.65	0.64609	1441.79	1359.3		
2007	125.81	0.64463	1441.79	2112.5		
2008	118.55	0.64973	1441.79	2900.1		
2009	148.9	0.61803	1441.79	5121		
2010	150.3	0.42651	1441.79	13294.6		
2011	153.86	0.52794	1000	9563		
2012	157.5	0.4438	350	7030.8		
2013	157.31	0.31049	1775	84756		
2014	192.73	0.30977	2350	90457		
2015	253	0.2994	800	98683		
2016	324	0.305	1575	94570		
2017	323.5	0.302	1187.5	96626.5		
2018	306.08	0.304	1997.4	95598.3		
	Table 6					