TITLE PAGE

THE ROLE OF THE NIGERIAN STOCK EXCHANGE ON CAPITAL FORMATION (1980-2011)

BY

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APPROVAL PAGE

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DEDICATION

This work is dedicated to God Almighty for his infinite mercy, guidance, protection and favors, who made the achievement of this work possible and also to my loving late parents Mr. and Mrs. Anitube Innocent Arum and my sisters who contributed and also for their great support and encouragement for their assistance and inspiration towards the success of this work.

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ABSTRACT

This study was carried out to determine the effect of stock market on capital formation in Nigeria. The variables included in the model were, Gross Fixed Capital Formation, value of share traded, interest rate, inflation rate, commercial bank investment indicator, and Stock Market Capital. Data were sourced from CBN statistical bulletin (2011). The study employed OLS technique to determine the effect of stock market on capital formation. The empirical finding shows that stock market capital, commercial bank investment indicator, inflation rate, interest rate, value of share traded and Gross Fixed Capital Formation. Based on the findings, the following recommendations were made. The total liberalization of the financial sector and encouragement of Nigerians to take advantage of the stock exchange.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Almost all the economist laid emphasis on capital formation as the major determinant of economic growth. The meaning of capital formation is that society does not apply the whole of it's current productive activity to the needs and immediate desire of consumption, but directs some part of it to the creation of capital goods, tools and instruments, machines and transport facilities, plants and equipments all the various forms of real capital that can so greatly increase the efficiency of productive effort. The essence of capital formation is to divert a portion of society's currently available resources for the purpose of increasing the stock of capital goods so as to make possible for an expansion of consumable output in the future.

The research focuses it's attention on Nigerian Stock Exchange which as the most visible mirror of the formal capital market in the country. The Nigerian Stock Exchange is one of the institutions on the capital market, which specializes in all forms of marketing trading securities. It is a network of individual institution and instrument. The market plays a central and dispensable role for which is has been variously described as the "hall mark" or the heart of the capital market.

The rapid economic development of any economy depends, among other things, on ready access of adequate financial resources (Alile and Anao, 1990). The desire to develop financial market in an economy is intimately connected with the objective of accelerating industrial and agricultural development. Among this financial market is the stock exchange, which deals with the mobilization of bank medium and long term capital funds (Sule and Momoh, 2009). The mechanism of stock exchange came into existence to

enable investment, which were inherently illiquid to become liquid through reconversion into cast at the decision of the investor without inconveniency the company (Olowe, 1997). Today, words like globalization have become familiar in economic and finance parlance and past growing intern dependence of economics and financial markets cannot be ignored.

The development of the capital market in Nigeria dates back to 1946, when the first government securities was floated; the institutional facilities for the operation was however absent and did not commence until fifteen years later, when the Nigerian Stock Exchange (now the Nigerian Stock Exchange) was established in 1961.

Consequently, in 1953, the Federal Government set up a committee under Professor R.H. Barback to advise on ways and means to fostering a shares market in Nigeria. The report

of the committee was published in 1959 and it recommended among other things:

(1) The creation of facilities for dealing in shares

(2) The establishment of rules regulating transfer and;

(3) Measures to encourage saving and issue of government and other organizations.

As follow up to this report, the then Lagos Stock Exchange now Nigerian Stock Exchange was incorporated on 15th September, 1960 through the collective encouragement of the business community, the Nigerian Industrial Development Bank Limited (NIDB) and the Central Bank of Nigeria.

Conclusively, the availability of a secondary market endangers capital formation and socio-economic development. The allocative function as critical in determining the overall growth of the economy ie, the financial sector. Therefore, the role of the Nigerian Stock Exchange in the economy is an

engine for capital formation saddles with the private sector in general to achieve economic development program.

1.2 STATEMENT OF THE PROBLEM

The Nigerian Stock Exchange market is faced with numerous problems which comprises of decreased trading activities where by persistent rise in the demand for securities without a corresponding increase in its supply. In this case, investments are not easily found for purchase.

Given the number of years since the Nigerian Stock Exchange has been established and the substantial financial resources available in the country, coupled with the existing institutions one can claim that the entire spectrum of the capital market has not been sufficiently active, especially when compared with the capital unit of similar or lesser aged units in other developing countries. The factors responsible for this could be identified to include:

(1) High Cost of transaction

(2) Lack of transparency and

(3) Poor economic performance etc.

The spinal effect of the global economic crisis on the Nigerian Stock Exchange continued in 2009 with the exorbitant lending rate mounting pressure on the stock market as a result of massive borrowed fund in the market. The rush by stock investors to liquidate their investment to repay their loans in order to avoid the excessive lending rate caused the Nigerian Stock Market to crash. (Sere Ejembi, 2008) noted that it is not the global financial crisis and the speculative sub prime mortgage bubbles and bust alone that is responsible for the crash of the stock market, other contributory factors lent support. Some of these, namely; margin lending by the deposit money banks (DMBs), stock price appreciation that had no correlation with the fundamentals in the quoting companies and local investors

opting to invest in foreign capital markets to take advantage of the low stock price.

This study intends to evaluate the performance of the Nigerian Stock Exchange interms of its trading activities and determine the extent to which it's contributes to the capital formation process of the economy of at all there is causation between them.

1.3 RESEARCH QUESTION

The study will examine the following questions,

1. How does the Nigerian Stock Exchange influence capital formation in Nigeria?
2. What factors influence capital formation in the Nigerian economy?
3. What is the role of Stock Exchange on capital formation in Nigeria

1.4 RESEARCH OBJECTIVES

This study is primarily aimed at examining critically, the activities and performance of the Nigerian Stock Exchange especially, the study aims to;

1. To determine the impact of the Nigerian Stock Exchange on capital formation.
2. To evaluate the performance and growth of the Nigerian Stock Exchange.
3. To determine how the exchange could stimulate investment.
4. To quantify the relative importance of the Stock Exchange in determining the capital formation for national development.

1.5 RESEARCH HYPOTHESIS

The hypothesis that could be tested in this study is stated below:

(1) **H_0:** The Nigerian Stock Exchange has no significant impact on capital formation.

(2) **H_1:** The Nigerian Stock Exchange has significant impact on capital formation.

1.6 SIGNIFICANCE OF THE STUDY

The significant of this research is to examine the usefulness of the Nigerian Stock Exchange as a vehicle for capital market shows that Nigerian Stock Exchange contributes positively to the national development because it portrays the capabilities to raise funds from the surplus to the deficit for investment purpose.

Therefore, the design of an optimal capital structure, which ensures adequate and sustainable growth for national

development; this is the responsibility of the Nigerian Stock Exchange. The beneficiaries of this research work are the government, industries and individuals would benefit from the capital market role on capital formation.

CHAPTER TWO

2.0 LITERATURE REVIEW

It has been affirmed that economic development is particularly the result of capital formation. Capital formation, as generally accepted, is the major determinant of economic development. As an indicator of economic development, the essence of capital formation is the diversion of part of society's currency available resources for the purpose of increasing the stock of capital goods. On the other hand, the vehicle for which capital formation is the capital market, which is the institution on the Nigerian Stock Exchange.

This chapter will review some relevant literatures on the Nigerian Stock Exchange on capital formation.

Stock Exchange or market development has been the subject of intensive theoretical and empirical studies. More recently, the emphasis has increasingly shifted to stock

market indexes and the effect of stock markets on economic development. Stock market contributes to the mobilization of savings by enhancing the set of financial instruments available to savers to diversify their portfolio providing in important source of investment capital at relatively low cost. A well functioning and liquid stock market, that allows investors to diversify away unsystematic risk, will increase the marginal productivity of capital. Another important aspect which stock market development may influence economic growth as risk diversification. Obstfeld suggests that international risk sharing through internationally integrated stock markets improves the allocation of resources and accelerates the process of economic growth. Evaluation of stock market has impact on the operation of banking institutions and hence, on economic promotion. This means that stock market is becoming more crucial, especially in a number of emerging markets and their rule should not be ignored. Levine and Zervos argued that a well established stock market not only

mobilize capital and diversify risk between market agents but also it is able to provide different types of financial services than banking sector to stimulate economic growth.

The necessity of stock market development is an imperative need in order to achieve full efficiency of capital allocation of government can liberalize the financial system. As far as physical accumulation as concerned, both stock markets and banks provide sources of external financing for firms. For the purpose of resources allocation, they both create information to guide the allocation of resources. They differ only in the way the information is transmitted. Information in stock market is contained in equity prices, while loan managers collect that in banks. Therefore, while banks finance only well-established, safe borrowers, stock markets can finance risky, productive and innovative investment projects.

Fama and Schuwert claim that there are three explanations for the strong link between stock prices and real

economic activity. “First, information about future real activity may be reflected in stock prices well before it occurs-this is essentially the notion that stock prices are a leading indicator for the well-being. Secondly, changes in stock prices are changes in wealth, and this can affect the demand for consumption and investment goods. The main objective of this paper was to investigate the casual relationship among economic growth, stock market development and banking lending. Stock market development and banking lending favour economic growth.

The Nigerian capital market was deregulated in 1993. Consequently, prices of new issues are determined by issuing houses and stockbrokers, while on the secondary market prices are made by stockbrokers only. The market/quote prices, along with the all share index plus Nigerian Stock Exchange (NSE) 30 and sector indices, are published daily in the Stock Exchange Daily official list. The Nigerian Stock

Exchange CAPNET (an internet facility), our website (http://www.nse.com.nig), newspapers, and on the stock market page of the Reuters Electronic contributor system. Our on-line code in the Reuters Network is NSXA-B. The NSE is regulated by the securities and Exchange Commission, which has the mandate of surveillance over the exchange to forestall breaches of market rules and to defer and detect unfair manipulations and trading system. Data on listed companies performances are published daily, weekly, monthly, quarterly and annually. Transactions on the exchange are regulated by the Nigerian Stock Exchange, as a Self-Regulatory Organization (SRO), and the Securities and Exchange Commission (SRC)- apex regulator, which administers the investments and securities Act of 1999.

The exchange maintains an all-share index formulated in January 1984 (January 3, 1984=100). Only Common Stock (ordinary shares) are included in the computation of the index.

The index is value weighted and is computed daily. The highest value of 66,371.20 was recorded on March 3, 2008. Also, the Exchange has introduced the NSE-30 index, which is a sample-based capitalization-weighted index plus four sectorial indices. Similarly, four sectorial indices have been introduced to complement existing indices. These are NSE-food/beverage index, (later renamed NSE-Consumer Goods index) NSE Banking index, NSE Insurance index and NSE Oil/Gas index.

The Nigerian Exchange is an affiliate member of the world federation of exchange (FIBV). It is also an observer at meetings of International Organization of Securities Commissions (IOSCO), and a foundation member of the African Stock Exchange Association (ASEA). The NSE is regulated by the securities and exchange commission, which has the mandate of surveillance over the exchange to forestall breaches of market rules and to defer and detect unfair

manipulations and trading system. Data on listed companies performances are published daily, weekly, monthly, quarterly, and annually.

The National Council is the governing body of the Nigerian Stock Exchange. Currently, the National Council has of eighteen members; eleven individual ordinary members and seven dealing members. The National Council directs the Nigerian Stock Exchange's business and financial affairs, strategy, structures and policies; monitors the exercise of any delegated authority; and deals with challenges and issues relating to corporate governance, corporate social responsibility and corporate ethics. The new council members of the NSE are;

Alhaji Alikor Dangote, GEON	President
Mr. Oscar Onyema	Chief Executive Officer
Mr. Algboke Aig-Imoukhuede	Ordinary member

Mr. Abubakar Mahmoud, SAN Ordinary member

Mr. Abimbola Ogunbanjo Ordinary member

Mrs. Yemisi Ayeni Institutional member

Partnership Investment Company Limited (Represented by Mr. Victor Ogiemwonyi) Dealing member

WSTC Financial Services Limited (Represented by Rofarati Agusto) Dealing member

APT Securities and Funds Limited (Represented by Alhaji Garba Kurf) Dealing member.

City-Code Trust and Investment Limited (Represented by Mr. Ebilate Mac-Yoroki) Dealing member

ICON Stockbrokers Limited (Represented by Mr. Chike Nwanze) Dealing member

Stanbic IBTC Stockbrokers Limited (Represented by Mr. Oladele Sotubo) Dealing member

2.1 THEORETICAL FRAMEWORK

Modern Portfolio theory (MPT) could broadly be regarded as an open ended body of theory encompassing all the academic papers that have been published on investing, up to and including today. Since these papers often conflict with each other, it could be messy theory indeed.

This theory was first propounded by Harry (1952) and it earned him a noble price in 1950s. In 1964 William F Sharpe reduced this theory to two maxims:

1. Do not put all your eggs in one basket Harry (1952).

2. You can get a higher return if you take more risk, but not if you risk everything on one egg sharp (1964).

The main point Harry (1964) made was that if there are two investments with the same expected future return whose up and down movement do not correlate exactly, then you will reduce the up and down movement, without reducing the

return, it you combine the two in your portfolio. If you combine many investments whose up and down movement was correlate you will reduce those fluctuations even more, still without reducing your return that is called “diversification”

Sharp (1964) noticed that since you can “diversify away” the excess risk of owing just one security by combining it with other, non correlated securities, you should not get any extra return for that extra risk you can diversify away all the diversifiable excess risk by owning every security in the market (ie the market portfolio), so there is no reason you should get excess return by straying from holding the whole market for index funds.

But it was realized after the method was used for a very long time, usually with meaningless results that you could not do the calculation unless you had just the right data to input into it. Historical data did not work well. It would often result

in absurd portfolio recommendation. Many analyses just tweaked the data that they input into the liked or that they wanted to recommend to clients.

This model is not used much anymore but its remnant can still be seen in what is now called “asset allocation (Wallener, 2009).

2.1.1 TOBINS PORTFOLIO SELECTIOON

MODEL: The risk aversion theory of liquidity preference.

Tobin (1967) in his famous article “liquidity preference as behavior towards risk” formulated the risk aversion theory of liquidity preference based on portfolio selection.

This theory removes two major defects of the Keynesian theory of liquidity preference. One Keynes’s liquidity preference function depend on the inelasticity of expectation of future interest rate; and two, individuals hold either money or bonds. Tobin’s has removed the two defects. His theory does

not depend on elasticity of expectation of future interest rate but precedes on the assumption that expected value of capital gain or loss from holding interest bearing aspects is always seen. Moreover, it explains that an individual's portfolio hold money and bonds rather than one at a time.

Tobin started his portfolio selection model of liquidity preference with this presumption that an individual's assets holder has a portfolio of money and bonds. Money neither brings any return nor imposes any risk on him. But bonds yield interest and also bring income. However, income from bonds is uncertain because it involves a risks, capital gains or losses. The greater the investment in bonds, the greater the risk of capital from them. An investor can bear the risk if he is compensated by an adequate return from bonds (Jhingan, 2002).

2.1.2 THE STOCK MARKET AND TOBIN'S

Many economists see a link between fluctuations in investment and fluctuations in the stock market. The term stocks refer to the shares in the ownership of corporations, and the stock market is the market in which these shares are traded. Stock prices tend to be high when firms have many opportunities for profitable investment, since these profit opportunities mean higher future income for the share holders. Thus, stock prices reflect the incentives to invest.

The noble prize-Winning economist James Tobin proposed that firms base their investment decisions on the following ratio, which is now called Tobin's q.

Q = Market Value of Installed Capital

Replacement cost of installed capital

The numerator of Tobin's q is the value of the economy's capital as determined by the stock market. The denominator is the price of the capital if it were purchased today.

Tobin reasoned that net investment should depend on whether q is greater or less than 1, if q is greater than 1, then the stock market values installed capital at more than its replacement cost. In this managers can raise the market value of the firms stock by buying more capital conversely, if q is less than 1, the stock market values capital at less than its replacement cost. In this case managers will not replace capital as it wears out.

Although at first, the q theory of investment appears quite different from the neoclassical model developed above, in fact the two theories are closely related. To see the relationship, note that Tobin's q depends on current and future expected projects from installed capital. If the marginal

product of capital exceeds the cost of capital, then firms are earning profit on their installed capital. these profit make the rental firms desirable to own, which raises the market value of these firms, stock, implying a high value of q. similarly, if the marginal products of capital, then firms are incurring losses on their installed capital, implying a low market value and a low of q.

Tobin's q theory provides a simple way of interpreting the role of the stock market in the economy suppose, for example that the observe a fall in stock price. Because the replacement cost of capital is fairly stable, a fall in the stock market is usually associated with a fall in Tobin's q. a fall reflects investors' pessimism about the current or future profitability of capital.

According to q theory, the fall in q will lead to a fall in investment, which could lower aggregate demand. In essence, q theory gives a reason to expect fluctuations in the stock

market to be closely tied to fluctuations in output and employment (Mankiw 1997).

2.1.3 PRINCIPLES OF FOREIGN PORTFOLIO INVESTMENT

Individuals must allocate their income among current consumption, productive investment, and financial investment. Simplifying these choices by assuming that consumption already been made and thereby omitting potentials feedback effects leaves the portfolio decisions narrowly defined: how to allocate the remaining wealth to financial and or real assets so as to maximize the most desirable return, ie consumption in the future. Despite this simplification, there is still a bewildering array of forms in which wealth can be held, ranging from non-liquid holdings of real estate, though gold coins and commodity futures, all the way to stocks, bonds, savings account, money market securities and cash equivalents. Investment theory comprises

the principles that help investor to rationally allocate their wealth between the different investment alternatives.

In the context of foreign portfolio investment, which involves investment not only in domestic, but also in foreign securities, the established investment concepts of portfolio theory and capital market theory must be modified and extended to take into account the international dimension. Whereas the basic principles also mostly apply on a international scale, additional consideration become necessary. An important issue that arises if portfolios are composed of securities from different countries is the choice of a numerate for measuring risk and expected return. As a matter of tradition and or due to regulation, which means that return and variance values for foreign securities need to be adjusted for currency gains or losses. It has to be noted, however that foreign goods and services represents. Therefore,

it purchase power were to be maintained, the maximization of local currency returns may not be optimal in this regard.

The Capital Asset Pricing Model

(CAPM) has been developed with respect to major capital market in the world. It is well accepted and widely used by professional portfolio managers to analyze the pricing of securities in national financial markets. However, since the scope of securities under consideration is enlarged to incorporate equities of all markets around the global, and since the cost of obtaining information and restrictions are generally eliminated, it may be argued that capital market have become increasingly" integrated ", and securities prices night actually be determined by internationally integrated, as opposed to segmented, financial market with integrated capital market, optimal diversification is realized by forming a global market portfolio and the riskness of all securities in the world

is measured according to their contribution to the risk of this portfolio (Bartram et al, 2001)

Stock Oriented Model or Portfolio Balance approach of exchange rates gives emphasis on capital account (Branson and Frankel, 1983). In other words, changes in stock prices might have impact on exchange rate movements. This approach states that stock price is expected to lead exchange rates with a positive correlation since a decrease in stock price reduces domestic wealth, which leads to a lower domestic money demand and market interest rates. Also, the decrease in domestic stock prices leads foreign investors to lower the demand for domestic assets and domestic currency. These shift in demand and supply of currencies cause capital outflows and the depreciation of domestic currency. On the other hand, when stock prices rise, foreign investor become willing to invest in a country's stock markets. This situation will lead to capital inflows and currency appreciation. This

theory is massively supported by Ajayi et al (1998) for Indonesia and Philippines; Hatami-J and Irandoust (2002) for Sweden; Erbaykal and Okuyan (2007); and Tabak (2006) for Brazil; and Gopalan (2010) for Mexico.

2.2 EMPIRICAL LITERATURE

There have been the growing concerns and controversies on the role of the stock markets on economic growth (Onyejide 1994, Levine and Zervos 1996; Demirgue-Kunt and Levine 1996, Nyongi, Obadan 1998; and Momoh 2009). There have been mixed results. While some are in support of a positive link, some negative link and others do not find any empirical evidence to support such conclusion. For instance, Atjeand Jovanovic (1993) found in a cross-country study of stock and economic growth of 40 countries from 1980 to 1988 that there was a significant correlation between the average economic growth and stock market capitalization.

Levine and Zornos (1996) examined whether there was a strong empirical relationship between stock exchange or market development and long run economic growth Demiurgic-Kunt and Levine (1996) using data from 44 countries for the period 1986 to 1993 found that different measures of stock exchange size are strongly correlated to other indicators of activity levels of financial, banking, non-banking institutions as well as to insurance companies and pension funds. They concluded that countries with well developed stock markets tend to also have well developed financial intermediaries.

Again, Demiurgic-Kunt and Makimovic (1998) have shown and re-emphasized the complementary relative to GDP and listing were used. The four (4) measures were combined into one (1) over all composite index of capital market development using principal component analysis. The financial market department was included as control. It was

found that capital market development is negatively and significantly correlated with the long-run growth in Nigeria.

Demiurgic-Kunt and Maksimovic (1998) cited in Henry (2000) found a relationship between economic growth and the stock market activity in the field of transmission of security (secondary market) more than in funds channeling (primary market). Barlett (2000) demonstrated that a rising stock prices raises the wealth of the economy (wealth effect) by encouraging increase in consumers consumption and increase investment.

Ewan et al (2009) appraised the impact of the capital market efficiency on the economic growth of Nigeria using time series data from 1961 to 2004. They found that the capital market in Nigeria has the potential of growth inducing but it has not contributed meaningfully to the economic growth of Nigeria because of low market capitalization, low absorptive capitalization, illiquidity, misappropriation of the funds among others.

Studies have also shown the impact of capital formation on economic growth. Some studies like Robert H. Frank (2001), conducted ordinary least square (OLS). Bacha et al (1990), noted that a higher capital formation led to higher GDP. This study was also conducted using ordinary least square (OLS) regression on cross-section date.

Abramovitz (1956), conducted ordinary least square (OLS) regression on cross- sectional data and concluded that capital formation account for higher percentage of the growth rate of the economy.

2.3 LIMITATIONS OF THE PREVIOUS STUDIES

The limitation of the previous study, this research work was set up to cover the lapses of the previous studies. Previous studies covered the periods between 1970 and 2004 but this study covers the trend between 1980 and 2011. Hence, this study captures the most recent trend. This study has it's focus, the role of Nigerian Stock Exchange on capital

formation in Nigeria, as against the scope of previous studies which were, the impact of stock market on economic growth; and the role of capital formation on economic growth.

CHAPTER THREE

INTRODUCTION

3.0 RESEARCH METHODOLOGY

It is of great believe that in any effective and efficient research work, it is highly expected of a researcher who intends to study the relationship between economic variables to express it in mathematical form for easy understanding. This is, to clearly modify/specify the model in which the economic phenomenon will be exploited empirically. Hence, a review of relevant literatures reveals several model specification in various refined form used to analyze the role and contribution of the Nigerian Stock Exchange in capital formation for natural development.

The method of analysis to be used in this study shall be the ordinary least square (OLS) techniques i.e regression analysis. The relationship between the operations of the stock

exchange and the level of capital formation in the country shall be examined using a multiple regression analysis. The gross fixed capital formation shall be the dependent variable, while the indicators of the operation of the stock exchange (such as value of share traded, rate of interest, commercial bank investment indicators, rate of inflation and stock market capital) shall be the dependent variables. The estimation period will cover between (1980-2011) due to non-availability of all the necessary data to date.

It is however important to note that the cogent intention here is so establish a mechanism relationship between the dependent variables and the independent variables in ensuring economic growth.

3.1 MODEL SPECIFICATION

From the statistic theory of productivity it can be clearly asserted that the major determinants of a country's GDP are the value of share traded, rate of interest, commercial bank

investment indicator, rate of inflation and stock market capitals in that particular year.

Hence, on this basis the model to be used in this research work is the form of multiple regression equation.

GFCF = $b_0 + b_1$ VST + b_2 ITR + b_3 CBI + b_4 IMF + b_5 SMC +

GFCF = Gross fixed capital formation (dependent variable)

B_0 = Constant variable

VST = Value of share traded

ITR = Interest rate

CBI = Commercial bank investment indicator

IMF = Inflation rate

SMC = Stock market capitals

It should therefore be noted that this production function model is meant to hypothesize that there is a positive

relationship between gross fixed capital formation and the value of share traded, rate of interest, commercial bank investment indicators, rate of inflation and stock market capitals with the aim of improving the rate of capital formation.

3.2 ESTIMATION PROCEDURE

The economic tool the researcher will apply is the ordinary least square (OLS) method in testing the influence of the dependent variables. This therefore covers a period of 31 years from 1980 to 2011.

The OLS procedure of estimate is chosen for this study because it's computational procedures are simple and the

estimates obtained from the procedures have optimal properties which include linearity and umbaisedness.

3.3 EVALUATION METHODS

In evaluating the resulting of the regression, the economic test, first order statistical test and the second order economic test will be adopted.

3.3.1 ECONOMIC A PRIORI TEST

The economic a priori test will be used extensively to determine the meaningfulness of the equation with regards to meeting the a priori expected signs of the parameters. The theoretical expected signs of the macro-economic variables are indicators in the model.

3.3.2 EVALUATION BASED ON STATSITICAL CRITERIA

R^2 (coefficient of determination), this tends to measure the overall variations in the dependent variable caused by variation in the explanatory variables computed in the models.

The T test

The test of significance approach is a procedural test used to test whether the variations are significant or not in the determination of the variations in the dependent variables.

Decision Rule

Using a two-tailed test at the 0.05 level of significance is 0.025. The decision rule becomes,

$\mathbf{H_0}$ = $\beta_i = 0$

$\mathbf{H_1}$ = $\beta_i \neq 0$

The independent variables is statistically significant if t cal > t 0.025, therefore, we reject the null hypothesis (H_0) and accept the alternative hypothesis (H_1), otherwise, accept the alternative hypothesis.

The F test

The F. test is used to least the overall significance of the regression model.

Hence the F. test is positively sloped, it is one tested test. Using the same 0.05 significance level, the decision rule becomes H0 = if F cal ≤ F tab, we accept the null hypothesis (Ho) and reject the alternative (H_1).

H_1 = F cal ≥ F tab we accept the alternative (H_1) and reject the null hypothesis (Ho).

3.3.3 EVALUATION BASED ON ECONOMETRIC CRITERIA

AUTOCORRELATION

The Durbin-Watson d statistic will be employed to test the randomness of the residuals or more specifically for testing the presence of auto correlation in the error terms.

Decision rule

NULL HYPOTHESIS	**DECISION**	**IF**
No positive autocorrelation	Reject	$0 < d < d1$
No positive autocorrelation	No decision	$d1 \leq d \leq du$
No negative autocorrelation	Reject	$4-d1 < d < 4$
No negative autocorrelation	No decision	$4-du \leq d \leq 4-d1$
No autocorrelation, positive or negative.	Do not reject	$du < d < 4-du$

HETEROSCEDASTICITY TEST

This occurs when the variance of the error term addition of a chosen value of the explanatory variables are not constant. To test heteroscedasticity and specification bias the cross product terms will be introduced among auxiliary regression.

NORMALITY TEST

This test will be conducted to find out if the error terms are normally distributed with zero mean and constant variance. The Jacque Bera test will be used to test for the normality in the time series used, the classical linear regression model has an assumption that the test will be conducted by augmenting the equation by adding legged values of the dependent variables.

3.4 SOURCES OF DATA

The data to be used for the research work is a secondary data. They include annual time series data of the variables which covers a period 31 years from 1980 to 2011. The data will be sourced from the Central Bank of Nigeria (CBN) statistical bulletin.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF RESULTS

4.1 PRESENTATION OF RESULT

The regression result is presented in the table below. This is in line with the model specification in chapter three.

Table 4.1: Presentation of Result

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-67857.13	62992.23	-1.077230	0.2913
VST	-0.063886	0.063812	-1.001156	0.3260
SMC	0.502174	2.838124	0.176939	0.8609
CBI	0.088286	0.154576	0.571152	0.5728
INF	-1605.299	1159.776	-1.384146	0.1781
ITR	9172.650	3143.839	2.917659	0.0072
R-squared	0.335645	Mean dependent var		96233.46
Adjusted R-squared	0.207884	S.D. dependent var		112915.2
S.E. of regression	100495.5	Akaike info criterion		26.04097
Sum squared resid	2.63E+11	Schwarz criterion		26.31580
Log likelihood	-410.6556	F-statistic		2.627139
Durbin-Watson stat	1.526281	Prob(F-statistic)		0.047336

4.2 ANALYSIS OF THE RESULT

4.2.1 ANALYSIS OF THE REGRESSION COEFFICIENTS:

When all the independent variables are equal to zero, the intercept of gross fixed capital formation is -67857.13.

The coefficient of VST of -0.063886 shows that a unit increase in the value of shares traded, other variables constant, will decrease the gross fixed capital formation by 0.063886 units.

A unit increase in stock market capital holding other variables constant increases the gross fixed capital formation by 0.502174 units.

As a result, a unit increase in commercial bank investment indicator, holding other variables constant increases the gross fixed capital formation by 0.088286 units.

A unit increase in inflation, other variables constant, decreases the gross fixed capital formation by 1605.299 units.

A unit increase in interest rate, holding other variables constant, increases the gross fixed capital formation by 9172.650 units.

4.2.2 ANALYSIS OF THE EVALUATION METHODS

4.2.2.1 EVALUATION BASED ON ECONOMIC CRITERIA

This shows whether the expected signs conform to the observed signs. The table below illustrates the situation.

Table 4.2: Economic a priori expectation

Variables	**Expected sign**	**Obtained sign**	**Conclusion**
VST	+	-	Does not conform
SMC	+	+	Conforms
CBI	+	+	Conforms
INF	-	-	Conforms
ITR	-	+	Does not conform

4.2.2.2 EVALUATION BASED ON STATISTICAL CRITERIA

1. The R^2 (Coefficient of determination):

This is used to check the goodness of fit of the regression model. From the result obtained, the R^2 is 0.335645. This shows that the independent variables explain about 33.56% of the variations in the dependent variable (gross fixed capital formation).

2. The student T-test:

The t-test is used to evaluate the significance of the independent variables in the model. Under n-k degrees of freedom (at 0.025 significance level), the critical value is ±2.0555. The decision rule is to reject H_0 if in absolute values, $t_{cal} > t_{tab}$. Hence, the result of the t-test is shown below:

Table 4.3: t-value

VARIABLES	$\mathbf{t_{cal}}$	$\mathbf{t_{tab}}$	**DECISION**
C	-1.077230	2.0555	Not significant
VST	-1.00156	2.0555	Not significant
SMC	0.176939	2.0555	Not significant
CBI	0.571152	2.0555	Not significant
INF	-1.384146	2.0555	Not significant
ITR	2.917659	2.0555	Significant

3. THE F-STATISTICS TEST

The F-test is used to test for the overall performance of the regression model in terms of its adequacy for forecasting and policy analysis. The decision rule is to reject H_0 if $F_{cal} > F_{tab}$, and conclude that the overall model is significant.

F_{cal} = 2.627139 @ V_2 = n-k (=26) and V_1 = k-1 (=5) degrees of freedom.

F_{tab} = 2.59 at 0.05 degrees of freedom

Since $F_{cal} > F_{0.05}$, we reject the null hypothesis and conclude that the overall regression is significant at 5% level of significance.

4.2.2.3 EVALUATION BASED ON ECONOMETRIC CRITERIA

1. TEST FOR AUTOCORRELATION:

The Durbin-Watson d* statistics would be used to test for the presence of autocorrelation. The decision rule is given below:

Table 4.4: Decision Rule

NULL HYPOTHESIS	**DECISION**	**IF**
No positive autocorrelation	Reject	$0 < d^* < d_L$
No positive autocorrelation	No decision	$d_L \leq d^* \leq d_U$
No negative autocorrelation	Reject	$4-d_L < d^* < 4$
No negative autocorrelation	No decision	$4-d_L \leq d^* \leq 4-d_L$
No autocorrelation positive or negative	Do not reject	$d_U < d^* < 4-d_U$

Given:

d^* = Durbin-Watson Statistic = 1.526281

d_L = Lower boundary = 1.17688

d_U = Upper boundary = 1.73226

At 0.05 significance level,

The decision falls under $d_L \leq d^* \leq d_U$ (i.e. 1.17688< 1.526281 < 1.73226). Thus, no decision will be made based on accepting or rejecting the null hypothesis, however our conclusion will be that there is no positive autocorrelation in the residuals.

2. TEST FOR HETEROSCEDASTICITY:

This test was carried out to ascertain the level of distribution of error term (to know whether the variance is constant). This test was carried out using White's heteroscedasticity test (with no cross terms). It follows chi-square distribution with degrees of freedom equal to the number of regressors excluding the constant term.

Test Hypothesis

H_0: Homoscedasticity (If the variance is constant)

H_1: Heteroscedasticity (If the variance is not constant)

The decision rule is to reject H_0 if $X^2_{cal} > X^2_{tab}$.

The calculated X^2 from the heteroscedasticity test is 2.418029, while the critical value at 1 degree of freedom is 3.84. Since $X^2_{cal} < X^2_{tab}$, we accept H_0 and conclude that the variance of the error term is constant.

4.3 EVALUATION OF THE RESEARCH HYPOTHESIS

The hypotheses have earlier been stated as;

H_0: The Nigerian stock exchange has no significant impact on capital formation.

Conclusion: Based on the various tests conducted, we accept H_0. This is because the value of shares traded and stock market capital was found to have an insignificant impact on the gross fixed capital formation. Therefore we conclude by saying that the Nigerian stock exchange has no impact on capital formation.

CHAPTER FIVE

5.0 SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

5.1 SUMMARY

From the interpretation of the results in chapter four (4), some findings were made. The findings are summarized as follows:

(a) There was a positive relationship between stock market capital and Gross fixed capital formation which means that an increase in stock market capital will increase Gross fixed capital formation.

(b) A positive relationship exist between commercial bank investment indicator and the Gross fixed capital formation meaning that an increase in commercial bank investment indicator will bring about an increase in Gross fixed capital formation.

(c) There is a negative relationship between inflation rate and Gross fixed capital formation which means that an increase in inflation rate will reduce Gross fixed capital formation.

(d) There is a negative relationship between value of share traded and Gross fixed capital formation, this implies that an in value of share traded will reduce Gross fixed capital formation.

(e) There is a positive relationship between interest rate and Gross fixed capital formation which means that an increase in interest rate will increase Gross fixed capital formation.

An increase in Gross fixed capital formation promote economic growth and development in the Nigerian economy.

5.2 RECOMMENDATIONS

Based on the findings the following recommendations are made;

(a) The total liberalization of the financial sector as needed if the country's dream of becoming one of the first twenty economics of the world as to be achieved.

(b) The activities of the Nigerian Stock Exchange should be made more transparent as this will bring about confidence in the mind of investors and people will be encouraged to invest.

(c) The government should encourage Nigerians to take advantage of the stock market and save for investment growth and capital formation in Nigeria.

5.3 CONCLUSION

In conclusion to this, since most of the independent variables had a positive relationship with the independent variables, this means that commercial bank investment indicator, interest rate and stock market capital have positive impact on Gross fixed capital formation. This means that the Nigerian Stock Exchange play's a good role in promoting

capital formation in Nigeria making it to be a catalyst of capital formation.

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