**CHAPTER ONE**

**INTRODUCTION**

**1.1 Background of the Study**

Success in capital accumulation and mobilization for development varies among nations, but it is largely dependent on domestic savings and inflows of foreign capital. Therefore, to arrest the menace of the current economic downturn, effort must be geared towards effective resources mobilization. It is in realization of this that consideration is given to measure for the development of capital market as an institution for the mobilization of finance from the surplus sectors to the deficit sectors.

The capital market is a highly specialized and organized financial market and indeed an essential agent of economic growth because of its ability to facilitate and mobilize saving and investment. To a great extent, the positive relationship between capital accumulation real economic growths has long been affirmed in economic theories (Anyanwu, 1993).

The capital market has been defined as a network of financial institutions and infrastructure that interact to mobilize and allocate long-term funds in the economy. The market affords business firms and governments the opportunity to sell stocks and bonds, to raise long-term funds from the savings of other economic agents (Echekoba, 2013).

Economic growth on the other hand is defined as an increase in the standard of living in a nation’s population with sustained growth form a simple, low-income economy to a modern high-income economy (Jhingan, 2010).

In the last two decades, studies on the capital market have received considerable attention from contemporary finance and economics literature resulting from its role in the provision of long-term, non-debt financial capital which enables companies to avoid over-reliance on debt financing, thus improving corporate debt-to-equity ratio and also in the mobilization of resources for national growth. According to Ndako (2010), the capital market is viewed as a complex institution imbued with inherent mechanism through which long-term funds of the major sectors of the economy comprising households, firms, and government are mobilized, harnessed and made available to various sectors of the economy. For sustainable economic growth, funds must be effectively mobilized and allocated to enable businesses and the economies harness their human, material, and management resources for optimal output. Hence, the capital market is an economic institution, which promotes efficiency in capital formation and allocation.

The capital market contributes to economic growth through the specific services it performs either directly or indirectly. Notable among the functions of the capital market are mobilization of savings, creation of liquidity, risk diversification, improved dissemination and acquisition of information, and enhanced incentive for corporate control. Improving the efficiency and effectiveness of these functions, through prompt delivery of their services can augment the rate of economic growth (Okereke-Onyiuke, 2000; Levine and Servos, 1996; Obadan, 1995; McKinnon, 1973).

Virtually all aspects of human Endeavors entail the use of money either self- generated or borrowed. Money enhances capital accumulation with tremendous cyclical rebound on economic growth. In capital market, the stock in trade is money which could be raised through various instruments, under well governed rules and regulations, carefully administered and adhered to by different institutions or market operators. The sourcing of long-term finance through the capital market is essential for self-sustained economic growth, which is consistent with external adjustment and rapid economic growth (Iyola, 2004).

The capital market, no doubt, is pivotal to the level of growth and development of the economy. Chinwuba and Amos (2011) note that capital market is one of the major institutions that acts in propelling a prostrate economy for growth and development. Nyong (1997), sees it as a complex institution imbued with inherent mechanism through which long-term funds of the surplus sectors of the economy are mobilized, harnessed and made available to deficit sectors of the economy.

Osaze and Anao (1999), assert that capital market is the cornerstone of any financial system since it provides the funds needed for financing, not only business and other economic institutions, but also the programs of government as a whole. Ilaboya and Ibrahim (2004), stress that capital market functions as an economic barometer for galvanizing economic activities.

In Nigeria, capital market effectively started operations on 5th June, 1961 under the provision of the Lagos Stock Exchange Act 1961, which transformed into the Nigerian Stock Exchange in December 1977 as a result of the review of the Nigerian financial system (CBN, 2007). The Securities and Exchange Commission (SEC) was established in 1979 through the SEC Act 1979, to regulate the capital market, but it commenced actual operation in 1980. It took over regulatory functions from Capital Issues Commission, which was established in 1973. At the commencement of operations, the market started with 0.3 million shares worth N1.5 m in 334 deals and the value continued to grow steadily to N16.6m in 634 deals by 1970 (CBN 2004). According to Nigerian Stock Exchange report (NSE, 2009), in 1995 the Federal Government liberalized the capital market with the abrogation of Laws that prevent foreign investors from participating in the domestic capital market. This includes: The Foreign Exchange; Monitoring and Miscellaneous Provision Decree No: 17, 1995; Nigerian Investment Promotion Commission Decree No: 16, 1995; Companies and Allied Matters Decree of 1990 and Securities and Investment Act (ISA) 45 of 1999. These legislations have accorded Nigerians and foreign investors the same right, privileges and opportunities for investment in securities in the Nigerian capital markets. Other key measures included The Central Security Clearing System (CSCS) which commenced operations in April 1997. It is a central depository for all the share certificates of quoted securities including new issues. With a market size of over 233 listed equities and gradual stability of the market resulting from the aftermath of the volatility induced by global economic crisis, the Nigerian economic growth does not seem to have been influenced a lot positively by the capital market, there is therefore a need to examine theoretical expectations with regard to the effects of Nigerian capital market on economic growth. From evidence in extant literature across different countries, the arguments are quite inconclusive and with mixed results with regard to the effects of capital market on economic growth.

**1.2 Statement of the Problem**

In recent times there has been a growing concern on the role of capital market in economic growth and thus the capital market has been the focus of economic policies and policy makers because of the perceived benefits it provides for the economy. The capital market provides the fulcrum for stock market activities and it is often cited as a barometer of business direction. An active capital market may be relied upon to measure changes in the general level of economic activities (Obadan, 1998).

Deducing from the extensive studies on the theoretical expectations on the role of capital markets on economic growth which have formed the core of normative economics, the capital market is expected to contribute to economic growth through the transmission mechanisms of savings mobilization, creation of liquidity, risk diversification, improved dissemination and acquisition of information, provision of long-term, non-debt financial capital which enables companies to avoid over-reliance on debt financing, and enhanced incentive for corporate control amongst others. However, an x-tray on the path of “positive economics” which is concerned with “what is” rather than “what should be” reveals that the argument in the literature on the growth effects of capital market has not been adequately resolved. The inconclusive nature of these theoretical and empirical studies provides the basis for a further empirical investigation on the role of capital market in economic growth. Hence, this study is needed.

Furthermore, a fundamental weakness of most studies providing evidence from developing economies is that past regression analyses were often run without a thorough examination of the characteristics of time series economic data. It is therefore not surprising that some of them are, in fact “spurious regressions” exhibiting an excellent fit between unrelated variables, especially when levels of the variables themselves are used in the regression. In general, when the regression includes non-stationary variables, the estimation of coefficients and inference from them becomes impossible (Iyoha and Ekanem, 2004).

**1.3 Research Questions**

This study seeks to provide reliable answers to the following research questions:

1. What is the impact of capital market on economic growth of Nigeria?
2. What is the impact of interest rate on the economic growth of Nigeria?
3. What is the causality relationship between capital market and economic growth of Nigeria?

**1.4Objectives of the Study**

The broad objective of this study is to determine the impact of capital market on the economic growth of Nigeria. The specific objectives of the study include the following:

1. To evaluate the impact of capital market on economic growth of Nigeria.
2. To ascertain the impact of interest rate on economic growth of Nigeria.
3. To identify the causality relationship between capital market and economic growth in Nigeria.

**1.5 Hypotheses of the Study**

The following under listed hypotheses shall be subjected to tests to ascertain its reliability:

1. H0: Capital market has no significant impact on the economic growth of Nigeria.
2. H0: Interest rate has no significant impact on the economic growth of Nigeria.
3. H0: No causality relationship exists between capital market and the economic growth of Nigeria.

**1.6 Significance of the Study**

The findings of this study will be of great importance to the academia, government and its agencies, students and the research.

The Academia: Members of the academia will find the study relevant as it will also form basis for further research and a reference tool for academic works.

Government: This study will expose to the government happenings in the capital market, bringing to their notice ways to alter the existing capital market policies to ensure growth.

The Investors: This study shall also be valuable to the investors especially those who may have research interest as it shall guide their private investment decisions. The study shall also form reasonable tool for the private sector’s contribution to National debates.

Students as well as subsequent researchers will find this piece helpful as it will add to the existing knowledge of capital market as well as capital accumulation while upgrading obsolete theories. Researchers will also find this study helpful in the areas of referencing and citations.

Lastly, this research work is of great importance to the researcher as it is a mandatory requirement for the qualification of Bachelor of Science in the Department of Economics.

**1.7 Scope of the Study**

The study is aimed at ascertaining the impact of capital market on the economic growth of Nigeria over a period of 36 years ranging from 1981 to 2016.

**1.8 Limitations of the Study**

The progress of this study has been hinder by certain constraints during its course, some of which includes: technical factors such as power supply which have limited the speed of the researcher is concluding this research work and have subjected the researcher to sourcing power from substitute power supplies such as generator sets and power banks.

Furthermore, financial constraints which have restricted the researcher from getting a wide range of materials for the study. However, the researcher was able to solve the financial constraint by resulting to borrowings from friends and family members to further the research work.

Also, time constraint was another huddle the researcher encountered; as there was no enough time to carry out this research work

**CHAPTER TWO**

**LITERATURE REVIEW**

**2.1 Conceptual Literature**

**2.1.1 Concept of Capital Market**

Capital market is a market where buyers and sellers engage in trade of financial securities like bonds, stocks, etc. The buying/selling is undertaken by participants such as individuals and institutions.

Capital markets help channel surplus funds from savers to institutions which then invest them into productive use. Generally, this market trades mostly in long-term securities.

Capital market consists of primary markets and secondary markets. Primary markets deal with trade of new issues of stocks and other securities, whereas secondary market deals with the exchange of existing or previously-issued securities. Another important division in the capital market is made on the basis of the nature of security traded, i.e. stock market and bond market (Bennett Coleman, 2017).

**2.1.2 Concept of Economic Growth**

Economic growth is an increase in the production of goods and services over a specific period. To be accurate, the measurement must remove the effects of inflation (Kimberly Amadeo, 2018). Economic growth is also defined as an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. It can be measured in nominal or real terms, the latter of which is adjusted for inflation. Traditionally, aggregate economic growth is measured in terms of gross national product (GNP) or gross domestic product (GDP), although alternative metrics are sometimes used (Investopedia, 2018).

In simplest terms, economic growth refers to an increase in aggregate productivity. Often, but not necessarily, aggregate gains in productivity correlate with increased average marginal productivity. This means the average laborer in a given economy becomes, on average, more productive. It is also possible to achieve aggregate economic growth without an increased average marginal productivity through extra immigration or higher birth rates (Kimberly Amadeo, 2018).

Economic growth creates more profit for businesses. As a result, stock prices rise. That gives companies capital to invest and hire more employees. As more jobs are created, incomes rise. Consumers have more money to buy additional products and services. Purchases drive higher economic growth. For this reason, all countries want positive economic growth. This makes economic growth the most watched economic indicator.

Gross domestic product is the best way to measure economic growth. That is because it takes into account the country's entire economic output. It includes all goods and services that businesses in the country produce for sale. It doesn't matter whether they are sold domestically or overseas.

GDP measures final production. It does not include the parts that are manufactured to make a product. It includes exports because they are produced in the country. Imports are subtracted from economic growth. Most countries measure economic growth each quarter.

The most accurate measurement of growth is real GDP. It removes the effects of inflation. The GDP growth rate uses real GDP.

GDP does not include unpaid services. It leaves out child care, unpaid volunteer work or illegal black-market activities. It doesn't count the environmental costs.

There are only a few ways to generate economic growth. The first is a discovery of new or better economic resources. An example of this is the discovery of gasoline fuel; prior to the discovery of the energy-generating power of gasoline, the economic value of petroleum was relatively low. Gasoline became a "better" and more productive economic resource after this discovery (Investopedia, 2018).

Another way to generate economic growth is to grow the labor force. All else equal, more workers generate more economic goods and services. During the 19th century, a portion of the robust U.S. economic growth was due to a high influx of cheap, productive immigrant labor.

A third way to generate economic growth is to create superior technology or other capital goods. The rate of technical growth and capital growth is highly dependent on the rate of savings and investment, since savings and investment are necessary to engage in research and development.

The last method is increased specialization. This means laborers become more skilled at their crafts, raising their productivity through trial and error or simply more practice. Savings, investment and specialization are the most consistent and easily controlled methods.

Analysts watch economic growth to discover what stage of the business cycle the economy is in. The best phase is expansion. This is when the economy is growing in a sustainable fashion. If growth is too far beyond a healthy growth rate, it overheats. That creates an asset bubble.

As too much money chases too few goods and services, inflation kicks in. This is the "peak" phase in the business cycle.

At some point, confidence in economic growth dissipates. When more people sell than buy, the economy contracts. When that phase of the business cycle continues, it becomes a recession. An economic depression is a recession that lasts for a decade. The only time this happened was during the Great Depression of 1929 (Kimberly Amadeo, 2018).

**2.1.3 Capital market and economic growth**

According to Levine and Zervos (1998) the capital market is expected to encourage savings by providing individuals with an additional financial instrument that may better meet their risk preferences and liquidity needs. Better savings mobilization may increase the savings rate. Capital markets also provide an avenue for growing companies to raise capital at lower cost. In addition, companies in countries with developed stock markets are less dependent on bank financing, which can reduce the risk of a credit crunch. Stock markets therefore are able to positively influence economic growth through encouraging savings amongst individuals and providing avenues for firm financing.

Kumar (1984) notes that the capital market contributes to economic growth through the specific services it perform either directly or indirectly. Notable among the functions of the stock market are mobilization of savings, creation of liquidity, risk diversification, improved dissemination and acquisition of information, and enhanced incentive for corporate control. Improving the efficiency and effectiveness of these functions, through prompt delivery of their services can augment the rate of economic growth. 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 stock 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. It also provides avenue for the marketing of shares and other securities in order to raise fresh funds for expansion of operations leading to increase in output/production. It creates a means of allocating the nations real and financial resources between various industries and companies. Sule and Momoh (2009) argues further that through the capital formation and allocation mechanism the capital market ensures an efficient and effective distribution of the scarce resources for the optimal benefit to the economy and it reduces the over reliance of the corporate sector on short term financing for long term projects and also provides opportunities for government to finance projects aimed at providing essential amenities for socioeconomic development.

Obstfeld (1994) notes that the capital market may also affect economic activities through the creation of liquidity. Liquid 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. This is because savers would be less willing to invest in large, long-term projects that characterized the early phase of industrial revolution. Closely related to liquidity is the function of risk diversification. Stock markets can affect economic growth when they are internationally integrated. This enables greater economic risk sharing. Because high return projects also tend to be comparatively risky, stock markets that facilitate risk diversification encourages a shift to higher-return projects and the resultant effect is a boost in the economy leading to growth through the shifting of society’s savings to higher-return investments.

According to Filler et al. (1999) the nature and economic significance of the relationship between capital market development and growth vary according to country’s level of economic development with a larger impact in less developed economies. The proponents of positive relationships between stock market development and economic growth base their argument on the fact that the stock market aids economic growth and development through the mobilization and allocation of savings, risk diversification, liquidity creating ability and corporate governance improvement among others.

Using the liquidity argument, Bencivenga et al. (1996) reasoned that the level of economic activities is affected by the capital market through its liquidity creating ability. The logic of this reasoning is that profitable investment requires long-term capital commitment; often investors are not willing or are reluctant to trade their savings for a long gestation period. With liquid equity markets, risks associated with investment are reduced, making it more attractive to investors. Thus, the easy transfer of capital ownership facilitates firms’ permanent access to capital raised through equity issues. Therefore, as liquid market improves the allocation of capital, the prospect for long-term economic growth is enhanced. Also, savings and investment are increased due to reduction in the riskiness of investment facilitated by stock market liquidity.

**2.1.4 The Nigerian Capital Market:**

The capital market is the complex of institution and mechanisms through which economic units desirous to invest their surplus fund, interact directly or through financial intermediaries with those who wish to procure funds for their businesses. Okereke (2000) describes the capital market as constituting of market and institutions that facilitates the issuance and secondary trading of long-term financial instruments. Unlike the money market that represents the short-end of financial system that provides facilities for claims and obligations with maturity vary from one day to a year, the capital market provides government at all levels an effective way of financing public projects; thus playing a vital role in stimulating industrial as well as economic growth and development.

Assuming the role of the major supplier and user of capital market funds, the government has a lot of pervading influence on the capital market. In Nigerian, the government influences the capital market through the Nigerian Securities and Exchange Commission (SEC) and the Nigerian Stock Exchange (NSE). SEC has the primary objective of being in charge of the overall regulation of the entire capital market while NSE supervises the operations of the formal quoted market (as a self- regulatory organization). However, the Nigerian financial markets are experiencing challenges such as poor infrastructural facilities, low level of public awareness as to the benefits derivable from the operation of the capital market, inadequacy of supply of securities, stringent stock exchange listing requirements limiting mostly the smaller companies, illiquid market and unfavorable government policies.

The capital market is the cornerstone of every financial system since it provides the funds needed for financing not only business and other economic institutions, but also the programme of government as whole. The capital market is essentially a market for long term securities that is stock, debenture and bonds lasting for usually longer than three years. The proper functioning of the capital market was not set up until the establishment of the Central Bank in 1959 and launching of the Lagos stock exchange in 1961even though securities were floated as far back as 1946.

The needs 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 feasibility of having indigenous forum for the purchase and sales of shares and stocks.

**2.1.5 Structure of the Nigerian Capital Market**

The capital market operations are structured into three broad categories: the primary, secondary and derivatives markets.

**The Primary Market:** it is responsible for the issue of new shares through the stock exchange or by private placement. Their operations are conducted through the following methods: offer for subscription, offer for sale, right issue, private placing and listing by introduction.

**The Secondary Market:** also referred to as the stock market, it provides the forum for capital market activities (trading in stock and shares, bonds, debentures and other long-term securities) and is usually accessible to all category of investors – small or big, government institution or individuals. The major participant in the Nigerian capital market includes development banks, private firms, the treasury and the CBN while the minor ones includes commercial and merchant banks, individuals, states and local governments. This market comprises of the organized stock exchange and the over-the-counter (OTC) market but presently, there is no organized OTC market in Nigeria. Secondary market transactions are carried out by licensed stock brokers on the seven trading floors of the Nigerian Stock Exchange located in Lagos, Kaduna, Benin, Port Harcourt, Kano, Onitsha, Ibadan, Yola, and Abuja.

**The Derivatives Market:** This is the market that trades, not in the issued securities, but on the right to title on the underlying security or on the basis of the future title to the security. The derivatives market in Nigeria is still in its infancy and the only derivative presently being actively traded on the Nigerian Stock Exchange is right offer issue options.

Nigeria, like many countries, has a formal capital market symbolized by the existence of a stock exchange and an active new issues market. According to Okereke (2000) the Nigerian capital market constituencies can be broadly classified into four categories:

1. Providers of funds (Individuals, Unit Trusts, Pension Trust, Insurance Companies)
2. Users of funds (Companies, Government at all tiers, etc)
3. Intermediaries (Stock broking Firms, Issuing houses, Registrars, Auditing Firms)
4. Regulators (SEC, NSE, CBN)

Similarly, the financial instruments in use can broadly be classified into the following:

1. Equity (Ordinary shares, Preference shares)
2. Debt (Government bonds such as federal, state and local government bonds, Industrial loans/debenture stock and bonds)
3. Derivatives (Options rights, swaps, Futures, etc)

In addition, the NSE has upgraded its stock market towards the internationalization of its operations and one of such development, that has increased the appeal of the Nigerian stock market internationally, is the establishment of the Central Security Clearing System limited (CSCS), which started operations in April 1997. The CSCS operates an automated clearing and settlement system, i.e. the transfers of stock ownership from one shareholder to another and the transfer of sales proceeds from the buying shareholder to the selling shareholder. The transfer of shares is now done on a T + 3 (Trading day + three working days) time frames under the automated CSCS, while transactions are executed on the basis of delivery versus payment.

**2.1.6 Challenges of the Nigerian capital market**

The Nigerian capital market, like any other national economy has been faced with many challenges and problems both endogenous and exogenous. Some of these problems are listed below:

* Small Size of the Market
* Problem of Illiquidity of the Market
* Slow growth of Securities Market
* Delay in Delivery of Share Certificates
* Problem of Manual Call-over
* Double Taxation
* Lack of Effective Underwriting
* Problem of Macro Economic Instability

**2.2 Theoretical Literature**

Detailed Historical Validation has provided empirical evidence on the crucial role of capital market on Economic growth of Emerging and developed economies.

According to Ekundayo (2002) he argued that a nation requires a lot of local and foreign investment to attain sustainable economic growth and development. Osaze (2010) observed that capital market act as a driver of Economic growth and development because it is essential for the long-term capital formation. It is a channel through which savings is mobilize for profitable and self liquidating investment.

Anyanwu (1998) posited that the functioning of the capital market affects liquidity, acquisition of information about firms, risk diversification, savings mobilizations and corporate control. Okereke Oyiuke (2000) posited that the cheap source of funds from the capital market remain an important element, for sustainability of the economy, she further asserted that the advantages of capital market are not only for short term repayment period as funds are held for medium and long term period or in perpetuity.

According to Levine and Zervos (1998) the capital market is expected to encourage savings by providing individuals with an additional financial instrument that may better meet their risk preferences and liquidity needs. Better savings mobilization may increase the savings rate. Capital markets also provide an avenue for growing companies to raise capital at lower cost. In addition, companies in countries with developed stock markets are less dependent on bank financing, which can reduce the risk of a credit crunch. Stock markets therefore are able to positively influence economic growth through encouraging savings amongst individuals and providing avenues for firm financing.

The challenge of economic growth is the availability of long term funding, far longer than the duration for which most savers are willing to commit their funds and this constitutes a barrier to economic growth. In this regards, the capital market provides an avenue for the mobilization and utilization of long-term funds for development and hence it is referred to as the long term end of the financial system. Over the past few decades, globally there has been an upsurge in capital market activity and this suggests the growing recognition of the capital market as a tool for fast-tracking economic progress.

Sule and Momoh (2009) argues that through the capital formation and allocation mechanism the capital market ensures an efficient and effective distribution of the scarce resources for the optimal benefit to the economy and it reduces the over reliance of the corporate sector on short term financing for long term projects and also provides opportunities for government to finance projects aimed at providing essential amenities for socioeconomic development. In a study published at the beginning of the nineties. Levine (1991) points out that capital markets can help the process of financial integration, financial intermediation and speed up the economic growth through two key processes. The first is by making property changes possible in the companies, whilst not affecting their productive process; the second is by offering higher possibilities of portfolio diversification to the agents.

**2.2.1 Theories of Investment**

A number of theories seeking to explain the investment behaviour of business firms and governments exist in the literature. Some of them include (1) Marginal efficiency of capital hypothesis (2) The Accelerator theory of investments and (3) Tobin Q theory of investment. We will briefly examine each of these theories in turn.

**1. Marginal Efficiency of Capital Hypothesis**

Marginal efficiency of capital hypothesis is a Keynesian concept; that stipulates the rate of discount which equates present value of net expected revenue from an investment of capital to its cost. The concept plays a major role in the Keynesian theory of investment; the level of investment is determined by the marginal efficiency of capital relative to the rate of interest. If the marginal efficiency rate is higher than the rate of interest, investment will be stimulated; if not, investment will be discouraged. This concept is based on the ordinary mathematical technique of computing present value of a given series of returns discounted at a specified Discount rate. (Encyclopedia of Banking & Finance, 2016).

**2. The Accelerator Theory of Investments**

The Accelerator theory of investment suggests that as demand or income increases in an economy, so does the investment made by firms. Furthermore, accelerator theory suggests that when demand levels result in an excess in demand, firms have two choices of how to meet demand. It is either to raise prices to cause demand to drop or to increase investment to match demand. The theory proposes that most companies choose to increase production thus increase their profits. The theory further explains how this growth attracts more investors, which in accelerates growth.

**3. Tobin Q-Theory of Investment**

There are two fundamental problems with both the accelerator theory and the Neoclassical theory of investment. First, by implication, both theories hold that in each period meaning that the adjustment of the capital stock, to its desired level, is instantaneous and complete each period. The solution to this is to add an adjustment cost function to the optimization problem, (Treadway, 1969). The second problem is that expectations play no role in the Neoclassical and accelerator theories. Solutions to these problems were proffered by Brainard and Tobin (1968). Tobin in 1969 postulated the Tobin Q-Theory of investments which states that investment is made until the market value of assets is equal to the replacement cost of assets. Furthermore, by adding a marginal adjustment cost function to the profit function the neoclassical theory becomes logically equivalent to the Q- theory. The Q-theory of investment as suggested by Brainard and Tobin (1968) and Tobin (1969) was, in some ways, foreshadowed by Keynes in 1936. For example, he argued that stock markets will provide guidance to investors and that: “There is no sense in building up new enterprise at a cost greater than at which an existing one can be purchased,” (Baddeley, 2003). It has been remarked that investment expands productive capacity, which is also a major explanation of and contributory factor to long run growth in the economy (Iyoha, 2007).

**2.3 Empirical Literature**

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.

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 polices that are geared toward rapid development of the stock market.

Adamu and Sanni (2005), examine the roles of the stock market on Nigeria’s economic growth, using Granger-causality test and regression analysis. They discovered a one-way causality between GDP growth and market turnover. They also observed a positive and significant relationship between GPD growth and market turnover ratios. The authors advised that government should encourage the development of capital market since it has a positive effect on economic growth.

Chinwuba and Amos, (2011), examine the impact of the Nigerian capital market performance on the economic development of Nigeria by using the Ordinary least Square regression model. The result indicates that the performance of the capital market impact positively on the economic growth of Nigeria.

In France, Vazakidis and Adamopoulos, (2009), employed Cointegration, Granger Causality test and Vector Error Correction model, to examine the causal nexus between stock market development and economic growth for period of 1965 to 2007. They found that there exists a significant positive association between economic growth and stock markets development.

The study on the impact of the Nigerian capital market on the Nigerian economy by Kareem Rasaki, Sanni Saffiyah, Raheem Kamilu and Bakare Hakeem, (2013). The study seeks to determine the trend of capital market over the years, examine the relationship between capital market and economic growth, and to proffer recommendations based on the research findings. The result shows that there has been a steady rise in the macro economic variables considered i.e. gross domestic product, market capitalization, total shares traded, public capital expenditure, gross capital formation, openness (export plus import divided by GDP) and foreign direct investment. Also that the R-squared value of 96% implies the total variation in Real GDP is being explained by the explanatory variables (i.e. MKT CAP, TST, PCE, GCF, OP and FDI).

This study by Taiwo, J.N, Alaka Adedayo and Afieroho Evawere, (2014) seeks to evaluate the contribution of capital market to the growth of Nigeria’s economy. The result shows that, at one percent significance level, all the variables were stationary at first differencing. The result of the normalized cointegrated series further reveals that market capitalization rate, total value of listed securities, labor force participation rate, accumulated savings and capital formation are significant macroeconomic determinants factors of economic growth in Nigeria.

This study by Atoyebi Kehinde .O, Ishola Saheed Ademola, Kadiri Kayode .I, Adekunjo Felix .O and Ogundeji Musibau .O, (2013) examines the impact of capital market on economic growth in Nigeria using annual data from 1981 to 2010. Empirical investigations revealed that two variables are statistically significant at 10% and these variables are market index and market capitalization. Also the coefficient value of these two variables suggest that a percentage increase in market index and market capitalization will bring about on the average 33.7 and 44.8 percentage increase in reel GDP. Our findings based on johanson (1995)co-integration technique and vector auto regression suggest three co-integrating equation at 5% level of significant while the vector auto regression suggest the existence of long run relationship between stock market and reel GDP and the stability in the system was also determined through the vector autoregressive technique.

Study by Dr. Adeoye Amuda Afolabi (2015) empirically examines the impact of the Nigerian Capital Market on the Nigerian economy looking at a 20 years period from 1992 to 2011. The Nigerian Capital Market was proxy as Market Capitalization against some variables of the economy such as Gross Domestic Product (GDP), Foreign Direct Investment, Inflation Rates, Total New Issues, Value of Transaction and Total Listing. Using the multiple regression analysis, we find that Capital Market has an insignificant impact on the Economy within the period under review.

The first comprehensive study on the relationship between capital market development and economic growth, according to Levine (1997), was undertaken by the World Bank Research Group. They investigated the compatibility of stock market development with financial intermediaries and economic growth and concluded that stock market development is positively correlated with the development of financial intermediaries and long term economic growth. Levine (1997) confirms that capital markets can boost economic activity through the creation of liquidity, while Obstfeld (1995) identifies risk diversification, through internationally integrated stock markets, as another vehicle through which stock markets can raise resources and affect growth.

**2.4 Gap in Literature**

The gap observed in the literature reviewed is the inclusion of variable(s), one of the major determinant of stock market capitalization which is interest rate is not captured by the previous studies reviewed. The impact of stock market capitalization on the economic growth cannot be neglected, so the failure of the previous studies to capture interest rate on the economic growth in Nigeria gave rise to my take point. The researcher included interest rate so as to capture its full effect on foreign direct investment inflow.

**CHAPTER THREE**

**METHODOLOGY**

**3.1 Theoretical Framework**

The Accelerator theory of investment suggests that as demand or income increases in an economy, so does the investment made by firms. Furthermore, accelerator theory suggests that when demand levels result in an excess in demand, firms have two choices of how to meet demand. It is either to raise prices to cause demand to drop or to increase investment to match demand. The theory proposes that most companies choose to increase production thus increase their profits. The theory further explains how this growth attracts more investors, which in accelerates growth.

**3.2 Model Specification**

This study shall build a multiple regression model and make use of econometrics procedure in estimating the relationship between my economic variables

The fundamental relationships between the dependent variable and independent variables are specified as follows:

The functional form of the model is specified as:

RGDP= f (SMCAP, INTR)……………………………….…………….. (3.1)

The mathematical form of the model is specified as:

RGDPt = β0 + β1SMCAPt + β2INTRt…………………………..….……. (3.2)

This econometric form of the model is specified as:

RGDPt = β0 + β1SMCAPt + β2INTRt + µt….......................................…. (3.3)

β1> 0, β2 <

Where

RGDP= Real Gross Domestic Product

f= functional relationship

SMCAP= Total Stock Market Capitalization

INTR= Interest Rate

Βo= Constant

β1, β2 = are the relative slope coefficients and partial elasticity of the parameter.

µt = stochastic error term

**3.3 Method of Evaluation**

This study employed the use of various econometric tools of data analysis. The estimated result will be evaluated subject to the following tests:

1. Preliminary Test
2. Economic Test of Significance (A Priori Test)
3. Statistical Test of Significance ( First Order Test)
4. Econometric Test of Significance ( Second Order Test)

**3.3.1 Preliminary Tests**

**3.3.1.1 Stationarity (Unit Root) Test:** The importance of this test cannot be over emphasized since the data to be used in the estimation are time-series data. In order not to run a spurious regression, it is worthwhile to carry out a stationary test to make sure that all the variables are mean reverting, that is, they have constant mean, constant variance and constant covariance. In other words, that they are stationary. The Augmented Dickey-Fuller (ADF) test would be used for this analysis since it adjusts for serial correlation. The model is specified as follows:

**Decision Rule:** If the ADF test statistic is greater than the MacKinnon critical value at 5% (all in absolute term), the variable is said to be stationary. Otherwise it is non stationary.

**3.3.1.2 Co-integration Test:** Econometrically speaking, two variables will be co-integrated if they have a long-term, or equilibrium relationship between them. Co-integration can be thought of as a pre-test to avoid spurious regressions situations (Granger, 1986). As recommended by Gujarati (2004), the ADF test statistic will be employed on the residual. The model is specified as follows:

**Decision Rule:** If the ADF test statistic is greater than the critical value at 5%, then the variables are co-integrated (values are checked in absolute term).

**3.3.1.3 Error Correction Mechanism:** If there exist a long run relationship (co-integration) among the time series variables, the Error correction mechanism will be estimated to know the rate at which the dependent variable returns to equilibrium to the independent variable after some levels of variations i.e to derive the numerical value of the magnitude of the short run dynamics or disequilibrium. Error correction models are theoretically driven approach useful for estimating both short-term and long-term effects of one time series on another. The term error-correction relates to the fact that last-periods deviation from long-run equilibrium, the error, influences its short-run dynamics. The model is specified as follows:

**Decision Rule:** In conducting ECM, the expected sign of the result should be negative. A positive ECM implies a model misspecification or an indication of structural changes and will not give us the rate of these change in the dependent and independent variables.

**3.3.2 Economic Test of Significance (A Priori Test)**

These are determined by the principles of economic theory and refer to the sign and size of the parameters of economic relationship.

The expected signs for the parameters associated with the various variables are shown below

**Table 3.1 A priori Expectation**

|  |  |
| --- | --- |
| **VARIABLES** | **EXPECTED SIGNS** |
| SMCAP | +VE |
| INTR | -VE |

**3.3.3 Statistical Test of Significance (First Order Test)**

These are determined by the statistical theory and aimed at evaluating the statistical reliability of the estimates of the parameters of the model, the most widely used statistical criteria is the square of correlation coefficient (coefficient of determination R2), T-Test and F-Test of significance.

**3.3.3.1 Test for Goodness of Fit**

The coefficient of multiple determinations (R2) is used to determine the proportion of variation dependent variable that is attributable to variation in explanatory variable. The value of R2 ranges between 1 and 0 (ie 0≤R2≤1). The closer to 1 the better the fit, otherwise the worse the fit.

**3.3.3.2 t-Test of Significance**

The student t-ratio will be used to test the individual statistical significance of the regression co-efficient. A two-tail test is conducted at 5% level of significance and n-k degree of freedom (df), where n is the number of observation and K is the number of parameter(s) estimated.

**Decision Rule:**

The computed (t\*) will be compared with the critical t-value (t0.025). If **t\*>t0.025**, the Ho will be rejected and H1 will be accepted. Otherwise, Ho is accepted and H1 rejected.

**3.3.3.3 f-Test of Significance**

f-test statistics is used to test the overall statistical significance of the independent variables. A one-tail test will be conducted at 5% level of significance and (V1/V2) degrees of freedom. Where;

V1= degree of freedom (df) for the numerator: v1=k-1.

V2= degree of freedom (df) for the denominator: v2=n-k.

**Decision Rule:**

If the computed f-ratio(f\*) is compared with the critical f-ratio **(f0.05** ). If **f**\*>**f**0.05, we will reject the null hypothesis and accept the alternative, otherwise, the alternative hypothesis H1 will be rejected and null hypothesis H0 be accepted.

**3.3.4 Econometric Test of Significance (Second Order Test)**

**3.3.4.1 Autocorrelation Test:** The aim of this test is to examine whether the errors corresponding to different observations are serially correlated or not. Uncorrelated errors are desirable. The Durbin – Watson (D-W) statistics at 5% will be used to test for the presence of autocorrelation problem. The region of no autocorrelation remains:

du< d\* < (4-du)

Where:

du = Upper Durbin – Watson

d\* = Computed Durbin-Watson

**Decision Rule:**

If the computed value of Durbin-Watson lies within the no autocorrelation region, it means there is no presence of autocorrelation problem. But if the Durbin-Watson computed value lies outside the regions there is the presence of autocorrelation problem. If it occurs, to avoid the spurious regression associated with it, we will employ the Durbin Watson Autocorrelation Correction to remove its influence in the model.

**3.3.4.2 Granger Causality Test:** Although regression analysis deals with the dependence of one variable on the other, it does not necessarily imply causation. In other words, the existence of a relationship between variables does not prove causality or the direction of influence (Gujarati, 2004). The essence of causality analysis, using the granger causality test, is to actually ascertain whether a causal relationship exists between two variables of interest. Below is the Granger specification model:

**Decision Rule:**

If the probability value is less than 0.05, the alternative hypothesis is accepted otherwise the null hypothesis is accepted.

**3**.**4 Data required and sources**

The data required for this study are secondary time series data on Total stock market capitalization, interest rate and real gross domestic product (RGDP) ranging from 1980-2015. The data is extracted from Central Bank of Nigeria (CBN) statistical bulletin, 2016 Edition.

**3.5 Statistical Package Used**

This study employs the 8th version of econometric view (Eviews) in carrying out its analysis.

**CHAPTER FOUR**

**PRESENTATION AND ANALYSES OF DATA**

**4.1 Empirical Results**

**4.1.1 Unit Root Result**

As a preliminary step in testing the impact of poverty rate on economic growth in Nigeria, unit root test was conducted on our focus variables. An augmented Dickey Fuller (ADF) test unit root test was employed for this purpose. The results of the tests are presented in Tables 4.1.

**Table 4.1: Unit Root Test Analyses Result**

|  |  |  |  |
| --- | --- | --- | --- |
| **VARIABLES** | **ADF test**  **Statistics** | **5% critical**  **Value** | **Order of**  **Integration** |
| **RGDP** | -5.187878 | |  |  | | --- | --- | | -1.951332 |  | | I(1) |
| **SMCAP** | -5.677361 | -3.562882 | I(1) |
| **INTR** | -3.988088 | -2.957110 | I(0) |

From the unit root result summarized in the table above, the real gross domestic product (RGDP) and total stock market capitalization (SMCAP) are stationary at level form while stock market capitalization is stationary at first difference. Not having a stationarity time series data indicates not having a short run relationship among the individual time series data.

**4.1.2 Cointegration Test**

Economically speaking, two variables will be cointegrated if they have a long-run or an equilibrium relationship between them (Gujarati, 2004:822). The Augmented Dickey Fuller (ADF) test was utilized for this purpose, a unit root test was conducted on the residuals. The results of the tests are presented in Tables 4.2.

**Table 4.2: Cointegration Analyses Result**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: ECT has a unit root | | | |  |
| Exogenous: None | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -2.355455 | 0.0199 |
| Test critical values: | 1% level |  | -2.634731 |  |
|  | 5% level |  | -1.951000 |  |
|  | 10% level |  | -1.610907 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(ECT) | | |  |  |
| Method: Least Squares | | |  |  |
| Date: 07/16/18 Time: 15:18 | | |  |  |
| Sample (adjusted): 1983 2016 | | |  |  |
| Included observations: 34 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| ECT(-1) | -0.303971 | 0.129050 | -2.355455 | 0.0246 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.143729 | Mean dependent var | | -17.71429 |
| Adjusted R-squared | 0.143729 | S.D. dependent var | | 1177.793 |
| S.E. of regression | 1089.870 | Akaike info criterion | | 16.85447 |
| Sum squared resid | 39197935 | Schwarz criterion | | 16.89937 |
| Log likelihood | -285.5261 | Hannan-Quinn criter. | | 16.86978 |
| Durbin-Watson stat | 1.660631 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

From the cointegration result above, the value of the ADF statistics (-2.355455) is greater than the 5% level (-1.951000) of significance in absolute term. This reveal the rejection of the null hypotheses at 5% level of significance based on our decision rule. This implies that there is a cointegrating equations or vectors among the variables of interest. Therefore, there is a long run relationship between the variables. That is, the linear combination of these variables cancels out the stochastic trend in the series. This will prevent the generation of spurious (i.e., non-meaningful) regression results.

**4.1.3 Error Correction Mechanism Test (ECM)**

**Table 4.3: ECM Analyses Result**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: D(RGDP) | | |  |  |
| Method: Least Squares | | |  |  |
| Date: 07/16/18 Time: 15:22 | | |  |  |
| Sample (adjusted): 1983 2016 | | |  |  |
| Included observations: 34 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| D(SMCAP) | 0.149515 | 0.124553 | 1.200407 | 0.2391 |
| INTR | 65.54768 | 14.62796 | 4.480987 | 0.0001 |
| ECT(-1) | -0.692152 | 0.174739 | 3.961070 | 0.0004 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.158530 | Mean dependent var | | 1557.240 |
| Adjusted R-squared | 0.104242 | S.D. dependent var | | 1532.667 |
| S.E. of regression | 1450.585 | Akaike info criterion | | 17.48142 |
| Sum squared resid | 65230066 | Schwarz criterion | | 17.61610 |
| Log likelihood | -294.1841 | Hannan-Quinn criter. | | 17.52735 |
| Durbin-Watson stat | 1.347074 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

From table 4.3 above, the magnitude of the short run disparity is -0.692152, that is to say the degree of the short run dynamics is 69.2152. This shows a relatively high speed of adjustment to equilibrium after a shock.

**4.2 Regression Result**

**Table 4.5: The Regression Analyses Result**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: LOG(RGDP) | | |  |  |
| Method: Least Squares | | |  |  |
| Date: 07/16/18 Time: 15:20 | | |  |  |
| Sample: 1981 2016 | | |  |  |
| Included observations: 36 | | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | 9.237784 | 0.056745 | 162.7938 | 0.0000 |
| LOG(SMCAP) | 0.172047 | 0.008236 | 20.89013 | 0.0000 |
| INTR | -0.000850 | 0.002224 | -0.382367 | 0.7046 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.931028 | Mean dependent var | | 10.22032 |
| Adjusted R-squared | 0.926847 | S.D. dependent var | | 0.535484 |
| S.E. of regression | 0.144831 | Akaike info criterion | | -0.946843 |
| Sum squared resid | 0.692209 | Schwarz criterion | | -0.814883 |
| Log likelihood | 20.04318 | Hannan-Quinn criter. | | -0.900786 |
| F-statistic | 222.7262 | Durbin-Watson stat | | 0.180399 |
| Prob(F-statistic) | 0.000000 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

In the regression result, the variables under consideration are real gross domestic product (dependent variable), stock market capitalization [SMCAP], interest rate [INTR] from the result the estimated coefficient value of bo, b1, b2, and b3 are 9.237784, 0.172047 and 0.000850 respectively.

**TABLE 4.6: Result of A prior Test**:

|  |  |  |  |
| --- | --- | --- | --- |
| **VARIABLES** | **EXPECTED SIGNS** | **OBSERVED SIGNS** | **RESULTS** |
| SMCAP | +VE | +VE | CWES |
| INTR | -VE | -VE | CCWES |

CWES – conform with expected sign

**4.3 Evaluation of Regression Results**

**4.3.1 Evaluation Based on Economic Criterion**

This subsection is concerned with evaluating the regression results based on a priori expectations. The signs and magnitude of each variable coefficient is evaluated against theoretical expectations.

The signs of the entire variables coefficient are not totally in line with prior expectations. Stock market capitalization and interest rate has positive relationships with real gross domestic product (RGDP).

The constant term is estimated at 9.237784 which mean that the model passes through the point 9.237784 mechanically, if the independent variables are zero, real gross domestic product would be 9.237784.

The estimated coefficient for stock market capitalization (SMCAP) is 0.172047; this implies that if we hold all other variables affecting real gross domestic product constant, a unit increase in stock market capitalization will lead to a 0.172047 increase in real gross domestic product on the average. Likewise, the estimated coefficient of interest rate (INTR) is -0.000850, this means that holding every other variable that affect real gross domestic product constant, a unit increase in interest rate will bring about a -0.000850 decrease in real gross domestic product.

**4.3.2 Evaluation Based On Statistical Criterion**

This subsection applies the R2, the t-test and the f-test to determine the statistical reliability of the estimated parameters. These tests are performed as follows;

**4.3.2.1 R2 –Result and Interpretation**

The coefficient of determination R2 from the regression result, the R2 is given as 0.731028 this implies that 73.1028% of the variation in real gross domestic product is being explained by variations in interest rate and stock market capitalization.

**4.3.2.2 t–Test Result and Interpretation**

From the distribution table, t0.025, 34= 2.042

The result of the t-test of significance is shown in table 4.5 below:

The result of the t-test is presented below and evaluated based on the critical value (2.042) and the value of calculated t-statistics for each variable.

**Table 4.7: t-Test of Significance analyses result**

|  |  |  |  |
| --- | --- | --- | --- |
| **VARIABLES** | **t-computed (t\*)** | **t-tabulated (ta/2)** | **Conclusion** |
| SMCAP | 20.89013 | 2.042 | Insignificant |
| INTR | -0.382367 | 2.042 | significant |

Significant (Reject Ho; accept H1),

Insignificant (Accept Ho).

From the t- test result above, For SMCAP, t\*>ta/2, therefore we accept alternate hypothesis. Hence total stock market capitalization is statistically significant thus stock market capitalization has an significant impact on real gross domestic product.

For INTR, t\*< ta/2 therefore we accept null hypothesis. Hence interest rate is not statistically significant thus interest rate has no significant impact on real gross domestic product.

**4.3.2.3 Result and Interpretation of F–Test of Significance**

v1=3-1=2, V2=34-3=31, df=(2,31) at 5% level of significance and df=(2,31), f0.05= 3.32 and F\*=222.7262. Since f\*> f0.05, we accept the null hypothesis and conclude that the variables (SMCAP and INTR) have joint inference on real gross domestic product.

**Table 4.8: f-Test of Significance analyses result:**

|  |  |  |
| --- | --- | --- |
| **Computed f-ratio value** | **Critical f-ratio value** | **Result** |
| 222.7262 | 3.32 | Statistically significant |

**4.3.3 Evaluation Based on Econometric Criterion**

In this subsection, the following econometric test is used to evaluate the result obtained from our model: autocorrelation, normality, granger causality test.

**4.3.3.1 Result and Interpretation of Autocorrelation Test**

Using the durbin-watson statistics, the region of no autocorrelation (positive or negative) is given as follows

du< d\*< (4-du)

du= 1.58

d\*= 0.180399

(4-du)= 4 – 1.58= 2.42

By substitution, the region becomes:

1.58 >0.180399< 2.42

|  |  |  |  |
| --- | --- | --- | --- |
| Du | d\* | 4-du | Result |
| 1.58 | 0.180399 | 2.42 | Autocorrelation present |

The result shows that there is presence of autocorrelation problem in the model as the computed durbin Watson statistics didn’t fall within the zero autocorrelation regions.

**4.3.3.2 Granger Causality Test: Result and Interpretation**

**Table 4.9: Causality Test Analyses Result:**

|  |  |  |  |
| --- | --- | --- | --- |
| Pairwise Granger Causality Tests | | | |
| Date: 07/16/18 Time: 15:25 | | | |
| Sample: 1981 2016 | | |  |
| Lags: 2 | |  |  |
|  |  |  |  |
|  |  |  |  |
| Null Hypothesis: | Obs | F-Statistic | Prob. |
|  |  |  |  |
|  |  |  |  |
| SMCAP does not Granger Cause RGDP | 34 | 0.30747 | 0.7377 |
| RGDP does not Granger Cause SMCAP | | 11.1036 | 0.0003 |
|  |  |  |  |
|  |  |  |  |
| INTR does not Granger Cause RGDP | 34 | 0.78109 | 0.4673 |
| RGDP does not Granger Cause INTR | | 0.28770 | 0.7521 |
|  |  |  |  |
|  |  |  |  |
| INTR does not Granger Cause SMCAP | 34 | 0.39906 | 0.6746 |
| SMCAP does not Granger Cause INTR | | 2.33574 | 0.1147 |
|  |  |  |  |
|  |  |  |  |

The granger causality test result shows a unidirectional causality relationship between stock market capitalization and real gross domestic product, it also shows no causality relationship between real gross domestic product interest rate in Nigeria and finally, no causality relationship exist between stock market capitalization and interest rate.

**4.4** **Evaluation of Research Hypotheses**

**4.4.1 Hypotheses one**- from the t-Test result we accept the alternate hypothesis for stock market capitalization which indicates that stock capital market has significant impact on economic growth in Nigeria, whereas in interest rate t-Test result, we accept null hypothesis, which indicates that interest rate have no significant impact on the economic growth in Nigeria.

**4.4.3 Hypotheses two-** The granger causality test result shows a unidirectional causality relationship between stock market capitalization and real gross domestic product, it also shows no causality relationship between real gross domestic product interest rate in Nigeria and finally, no causality relationship exist between stock market capitalization and interest rate.

**4.5 Implication of the Results**

The result of this study indicates that stock market capitalization has a significant impact on the Nigeria economic growth whereas interest rate has no significant impact on the economic growth in Nigeria; this means that stock market capitalization is an insignificant variable for determining the economic growth in Nigeria whereas interest rate is not a significant variable to determine economic growth in Nigeria. Also, stock market capitalization has a positive relationship on the economic growth; this implies that an increase in the values of the stock market capitalization will bring about increase in the economic growth of Nigeria. This is consistent with our a priori expectation since it is an established theory in macroeconomics that an increase in stock market capitalization will promote economic growth of any economy. On the other hand, interest rate have no significant impact on the economic growth of Nigeria and hence no significant impact economic growth, this implies that interest rate is not significant variables for capturing economic growth.

Furthermore, the result indicates a unidirectional causality relationship between stock market capitalization and real gross domestic product, it also shows no causality relationship between real gross domestic product interest rate in Nigeria and finally, no causality relationship exist between stock market capitalization and interest rate.

This implies that the past values of RGDP and INTR cannot be used in forecasting the future values of economic growth in Nigeria, also the past values of economic growth cannot be used in forecasting the future values of stock market capitalization on the average.

**CHAPTER FIVE**

**SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION**

**5.1 Summary of Findings**

In other to carry out the analysis of this study a multiple regression model was built to test for the impact of capital market on the economic growth from the period of 1981 to 2016. The model incorporates other variables that affect stock market capitalization in Nigeria which includes; interest rate.

The findings of the study shows a positive relationship existing between stock market capitalization and Economic Growth of Nigeria while a negative relationship exists between interest rate and Economic Growth of Nigeria within the periods covered.

Also, the findings indicates stock market capitalization have significant impact on Real Gross Domestic Product and hence economic Growth of Nigeria, whereas interest rate have no significant impact on the economic growth in Nigeria.

Finally, the findings of the granger causality result shows a unidirectional causality relationship between stock market capitalization and real gross domestic product, it also shows no causality relationship between real gross domestic product interest rate in Nigeria and finally, no causality relationship exist between stock market capitalization and interest rate.

**5.2 Conclusion**

From the foregoing, we therefore conclude that stock market capitalization have positive impact on the economic growth of Nigeria, whereas interest rate have negative impact on the economic growth in Nigeria. The researcher also conclude that stock market capitalization have significant impact on economic growth in Nigeria whereas interest rate have no significant impact on the economic growth in Nigeria.

**5.3 Recommendations**

Based on the finding from the study we recommend that there is need to introduce and implement policies that will increase the level and size of Market Capitalization in the Nigerian Capital Market by the government through the Central Bank as increase in Market Capitalization will surely increase fund availability for desired investment which in turn will increase productivity of the Nation. This goes beyond mere regulatory measures but should include but not limited to punitive measures to check fraud and other malpractices that betray the trust from investor. Investors should be encouraged with necessary incentives so as to increase the volume and value of equities being traded upon in Nigeria, thus widening the coast of investment opportunities as well as increasing productivity.

**References**

Adebiyi (2005). Are small stock markets different?Journal of Monetary Economics, 50: 1593-1602.

Adeoye, A. (2015) Impact of the Nigerian capital market on the economy of Nigeria. Explorations in Economic History, Global Finance Journals. 43, 60–85

Akinbohungbe (1996). A contribution to the theory of economic growth.Quarterly Journal of Economics, 70: 65-94 25. Sudharshan, R. P. & Rakesh, G. (2011). An empirical analysis of the stock market performance and economic growth: Evidence from India. International Research Journal of finance and Economics, Issue

Anyanwu (1993). Capital market performance and economic development in Nigeria: An empirical analysis.A paper presented at the Department of Business Administration, Bayero University Kano.

Anyanwu (1997). Stock market development and economic growth: ARDL causality in Pakistan. International Research Journal of Finance and Economics, (14): 183-195

Anyanwu (1998). Are small stock markets different?Journal of Monetary Economics, 50: 1593-1602.

Atoyebi, K.O, Ishola, S. A, Kadiri, K. I, Adekunjo F .O, & Ogundeji M .O. (2013) Capital Market and Economic Growth in Nigeria an Empirical Analysis Journal of Economics, Finance and Administrative Sciences Issue 27 (18). 155-170.

Baddeley (2003). Capital market development and long run economic growth: Theory, evidence and analysis.First Bank Review, pp. 13-38

Bencillenga (1996).The Nigeria capital market in the African and global financial system. Benin City: Bofic Consults Group Limited.

Bennett, C. (2017). The impact of the Nigerian capital market on economic growth (1990-2010). International Journal of Developing Societies, 1(1): 11-19.

Brainard & Tobin (1968). Capital Market Efficiency and Economic Growth: The Case of India.European Journal of Economics, Finance and Administrative Sciences Issue 27 (18). 130-138.

Capital Market and Economic Growth in Nigeria

CBN (2004). Appraisal of capital market efficiency on economic growth in Nigeria. International Journal of Business and Management, 219-225.

CBN (2007). Cointegrated and error correction: Represen- tation, estimation and testing.Econometrica, 55: 251-276.

Chinwuba & Amos (2011). Capital market and economic growth in Nigeria. An empirical analysis. Journal of Humanities and Social Sciences, 6(6): 60-68.

Echekoba (2013). Does stock market development raise economic growth? Evidence from Nigeria Journal of Banking and Finance, 1(1): 15-26.

Ekundayo (2002). The role of financial development in economy: The experiences of Taiwan, Korea and Japan. Journal of Asian Economies, 17: 667-690.

Encyclopedia of Banking & Finance (2016). Predictability and Volatility of Stock Return in Three Emerging Markets: Nigeria, South Africa and Brazil.Nigeria Journal of Economics and Development Matters 2(1): 12 – 29.

Ewan (2009). Emerging stock market performance and economic growth. American Journal of Applied Sciences, 7(2): 265-269

Filler (1999). Financial development and economic growth nexus in Nigeria. Global Journal of Commerce & Management Perspective, 3(5): 231-241

Gujarati (2004). Financial Markets and the Financing choice of Firms; Evidence from developing countries. Global Financial Journal,15 (2). 52-70.

Iiaboya & Ibrahim (2004).Creating a conducive environment for investment in the Nigerian capital market. Paper presented at public enlightenment on Opportunities in the Capital Market for Industrial Development, at Lokoja, Kogi State on 29th March to1st April.

Investopedia (2018).Stock market development and long-run growth. The World Bank Policy Research Working Paper, No. 1582.

Iyoha & Ekanem (2004). Stock markets and development: A re-assessment. European Economic Review, 1: 136-139.

Iyoha (2007). Nigerian Economy: Growth and the Role of Stock Market.Journal of Economic and Financial Studies, 2(2).

Iyola (2004). Stock market and development. European Economic Review, 37: 632-640

Jhingan (2010). Stock Market Development and Nigeria’s Economic Growth.Journal of Economics and Allied Fields, 2 (2), 116-132.

Kareem R, Sanni S, Raheem K & Bakare H (2013) The Impact of Capital Market on the Nigerian Economy. Explorations in Economic History, Global Finance Journals. 43, 40–59

Keynes (1936). Financial Markets and the Financing choice of Firms; Evidence from developing countries. Global Financial Journal,15 (2). 52-70.

Kimberly, A (1998). Stock markets, banks and economic growth. American Economic Review, 88: 537-558.

Kumar (1984). Stock Market Development and Long-runGrowth in Nigeria.Journal of African Business, 4 (3), 103-129. www.wikipedia.org/wiki/economic growth.

Levine & Servos (1996). The Nigerian Stock Exchange in Operation Lagos. Academy Press.

Levine & Zervos (1998). Stock market development and economic growth: ARDL causality in Pakistan. International Research Journal of Finance and Economics, (14): 183-195

Levine (1991).Stock market development and economic growth in Belgium, Explorations in Economic History, Global Finance Journals. 43, 13–38

Levine (1997). Financial Management. Domes Associates Publishers.Uyo, Nigeria First Edition.

Mckinnon (1973). Assessing the impact of capital market reforms in Nigeria: An incremental approach. A paper presented at the 46th annual conference of the Nigeria Economic Society in Lagos in August.

Ndako (2010). The Stock Market and Economic Growth in Nigeria: An Empirical Investigation, Journal of Economic Theory, 4, 65 – 70.

Nyong (1997). Stock market development and financial intermediaries: Stylized facts. The World Bank Economic Review, 10(2): 241-265.

Obadan (1995). Monetary Economic Theory, Policy and Institutions. Hybrid Publishers Limited. 247-274.

Obadan (1998). Stock Market Development and Private Investment Growth in Nigeria.Journal of Sustainable Development in Africa,11, (2).

Obstfeld (1994). Stock market financing options for public projects in Nigeria.The Nigerian Stock Exchange Fact Book, pp. 41 – 49.

Obstfeld (1995). Capital Market Efficiency and Economic Growth: The Case of India.European Journal of Economics, Finance and Administrative Sciences Issue 27 (18). 130-138.

Okereke (2000), an Empirical Analysis of the Impact of the Nigerian Capital Market on Her Socio- economic Development. Journal of Social Science 24 (2), 135.

Okereke-Onyiuke (2000). Understanding the Nigeria Capital Market: Best Investment Practices & Regulatory Compliance, Nigeria Security and Exchange Commission.Abuja.

Osaze & Anao (1999). An empirical analysis of the impact of the Nigerian capital market on her socio-economic development.Journal of Social Sciences, 24(2): 135-142.

Osaze (2010).Money and capital in economic development. Washington, DC: The Brookings Institution.

Osinubi & Amaghionyeodiwe (2003). Predictability and Volatility of Stock Return in Three Emerging Markets: Nigeria, South Africa and Brazil.Nigeria Journal of Economics and Development Matters 2(1): 12 – 29.

Soludo (2006). The Efficiency of the Japanese Equity Market, IMF Working Paper, No.142. Nigeria Stock Exchange (NSE) Fact Book for 2004-2009. Lagos: The Nigeria Stock Exchange.

Sule & Momoh (2009). The Efficiency of the Japanese Equity Market, IMF Working Paper, No.142. Nigeria Stock Exchange (NSE) Fact Book for 2004-2009. Lagos: The Nigeria Stock Exchange.

Taiwo, J.N, Alaka, A. & Afieroho E. (2014) Capital Market and Economic Growth in Nigeria Journal of Economics and Development Matters 2(1): 12 – 29.

Treadway (1969). Financial Management. Domes Associates Publishers.Uyo, Nigeria First Edition.

Vazakidis & Adamopoulos (2009).Stock market development and economic growth in Belgium, Explorations in Economic History, Global Finance Journals. 43, 13–38

**APPENDIX I**

**TIME SERIES DATA ON RGDP, INTR AND SMCAP, DATA RANGING FROM 1981-2016**

|  |  |  |  |
| --- | --- | --- | --- |
| YEAR | RGDP | INTR | SMCAP |
| 1981 | 15258 | 8.6 | 5 |
| 1982 | 14985.08 | 4.49 | 5 |
| 1983 | 13849.73 | 3.33 | 5.7 |
| 1984 | 13779.26 | 2.67 | 5.5 |
| 1985 | 14953.91 | 3.69 | 6.6 |
| 1986 | 15237.99 | 1.5 | 6.8 |
| 1987 | 15263.93 | 31.92 | 8.2 |
| 1988 | 16215.37 | 5.13 | 10 |
| 1989 | 17294.68 | 16.96 | 12.8 |
| 1990 | 19305.63 | 14.65 | 16.3 |
| 1991 | 19199.06 | 2.07 | 23.1 |
| 1992 | 19620.19 | 25.77 | 31.2 |
| 1993 | 19927.99 | 4.37 | 47.5 |
| 1994 | 19979.12 | 8.03 | 66.3 |
| 1995 | 20353.2 | 43.57 | 180.4 |
| 1996 | 21177.92 | 9.71 | 285.8 |
| 1997 | 21789.1 | 16.61 | 281.9 |
| 1998 | 22332.87 | 25.28 | 262.6 |
| 1999 | 22449.41 | 2.77 | 300 |
| 2000 | 23688.28 | 10.32 | 472.3 |
| 2001 | 25267.54 | 23.84 | 662.5 |
| 2002 | 28957.71 | 10.81 | 764.9 |
| 2003 | 31709.45 | 8.61 | 1359.3 |
| 2004 | 35020.55 | 19.37 | 2112.5 |
| 2005 | 37474.95 | 3.34 | 2900.1 |
| 2006 | 39995.5 | 0.37 | 5120.9 |
| 2007 | 42922.41 | 11.61 | 13181.7 |
| 2008 | 46012.52 | 4.19 | 9563 |
| 2009 | 49856.1 | 23.71 | 7030.8 |
| 2010 | 54612.26 | 42.31 | 9918.2 |
| 2011 | 57511.04 | 5.94 | 10275.3 |
| 2012 | 59929.89 | 6.88 | 14800.9 |
| 2013 | 63218.72 | 10.25 | 19077.4 |
| 2014 | 67152.79 | 11.36 | 16875.1 |
| 2015 | 69023.93 | 9.49 | 17003.4 |
| 2016 | 67931.24 | 27.29 | 16185.7 |

**SOURCE: NIGERIA STOCK EXCHANGE MARKET ANNUAL RETURN AND CENTRAL BANK OF NIGERIA STATISTICAL BULLETIN**

**APPENDIX II**

**STATIONALITY TEST RESULT ON RGDP**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(RGDP) has a unit root | | | |  |
| Exogenous: None | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=9) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -5.187876 | 0.0325 |
| Test critical values: | 1% level |  | -2.636901 |  |
|  | 5% level |  | -1.951332 |  |
|  | 10% level |  | -1.610747 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(RGDP,3) | | |  |  |
| Method: Least Squares | | |  |  |
| Date: 07/16/18 Time: 15:10 | | |  |  |
| Sample (adjusted): 1984 2016 | | |  |  |
| Included observations: 33 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| D(RGDP(-1),2) | -1.032729 | 0.199066 | -5.187876 | 0.0000 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.455792 | Mean dependent var | | -63.67879 |
| Adjusted R-squared | 0.455792 | S.D. dependent var | | 1474.906 |
| S.E. of regression | 1088.045 | Akaike info criterion | | 16.85199 |
| Sum squared resid | 37882940 | Schwarz criterion | | 16.89734 |
| Log likelihood | -277.0578 | Hannan-Quinn criter. | | 16.86725 |
| Durbin-Watson stat | 1.692075 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**APPENDIX III**

**STATIONALITY TEST RESULT ON SMCAP**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(SMCAP) has a unit root | | | |  |
| Exogenous: Constant, Linear Trend | | | |  |
| Lag Length: 3 (Automatic - based on SIC, maxlag=9) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -5.677361 | 0.0003 |
| Test critical values: | 1% level |  | -4.284580 |  |
|  | 5% level |  | -3.562882 |  |
|  | 10% level |  | -3.215267 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(SMCAP,2) | | | |  |
| Method: Least Squares | | |  |  |
| Date: 07/16/18 Time: 15:14 | | |  |  |
| Sample (adjusted): 1986 2016 | | |  |  |
| Included observations: 31 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| D(SMCAP(-1)) | -2.710771 | 0.477470 | -5.677361 | 0.0000 |
| D(SMCAP(-1),2) | 1.517014 | 0.393964 | 3.850642 | 0.0007 |
| D(SMCAP(-2),2) | 0.905469 | 0.284868 | 3.178555 | 0.0039 |
| D(SMCAP(-3),2) | 0.676625 | 0.188368 | 3.592040 | 0.0014 |
| C | -1682.627 | 855.1837 | -1.967562 | 0.0603 |
| @TREND("1981") | 155.3650 | 47.45926 | 3.273649 | 0.0031 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.725130 | Mean dependent var | | -26.41290 |
| Adjusted R-squared | 0.670156 | S.D. dependent var | | 3030.748 |
| S.E. of regression | 1740.621 | Akaike info criterion | | 17.93386 |
| Sum squared resid | 75744070 | Schwarz criterion | | 18.21140 |
| Log likelihood | -271.9748 | Hannan-Quinn criter. | | 18.02433 |
| F-statistic | 13.19040 | Durbin-Watson stat | | 1.985230 |
| Prob(F-statistic) | 0.000002 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**APPENDIX IV**

**STATIONALITY TEST RESULT ON INTR**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: INTR has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 3 (Automatic - based on SIC, maxlag=9) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -3.988088 | 0.0043 |
| Test critical values: | 1% level |  | -3.653730 |  |
|  | 5% level |  | -2.957110 |  |
|  | 10% level |  | -2.617434 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(INTR) | | |  |  |
| Method: Least Squares | | |  |  |
| Date: 07/16/18 Time: 15:15 | | |  |  |
| Sample (adjusted): 1985 2016 | | |  |  |
| Included observations: 32 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| INTR(-1) | -1.434309 | 0.359648 | -3.988088 | 0.0005 |
| D(INTR(-1)) | 0.396878 | 0.319213 | 1.243301 | 0.2244 |
| D(INTR(-2)) | 0.205155 | 0.246848 | 0.831100 | 0.4132 |
| D(INTR(-3)) | 0.418810 | 0.170915 | 2.450393 | 0.0210 |
| C | 19.32266 | 4.946011 | 3.906716 | 0.0006 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.689892 | Mean dependent var | | 0.769375 |
| Adjusted R-squared | 0.643950 | S.D. dependent var | | 17.38239 |
| S.E. of regression | 10.37207 | Akaike info criterion | | 7.658711 |
| Sum squared resid | 2904.655 | Schwarz criterion | | 7.887732 |
| Log likelihood | -117.5394 | Hannan-Quinn criter. | | 7.734625 |
| F-statistic | 15.01658 | Durbin-Watson stat | | 2.042758 |
| Prob(F-statistic) | 0.000001 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**APPENDIX V**

**COINTEGRATION TEST RESULT**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: ECT has a unit root | | | |  |
| Exogenous: None | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -2.355455 | 0.0199 |
| Test critical values: | 1% level |  | -2.634731 |  |
|  | 5% level |  | -1.951000 |  |
|  | 10% level |  | -1.610907 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(ECT) | | |  |  |
| Method: Least Squares | | |  |  |
| Date: 07/16/18 Time: 15:18 | | |  |  |
| Sample (adjusted): 1983 2016 | | |  |  |
| Included observations: 34 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| ECT(-1) | -0.303971 | 0.129050 | -2.355455 | 0.0246 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.143729 | Mean dependent var | | -17.71429 |
| Adjusted R-squared | 0.143729 | S.D. dependent var | | 1177.793 |
| S.E. of regression | 1089.870 | Akaike info criterion | | 16.85447 |
| Sum squared resid | 39197935 | Schwarz criterion | | 16.89937 |
| Log likelihood | -285.5261 | Hannan-Quinn criter. | | 16.86978 |
| Durbin-Watson stat | 1.660631 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**APPENDIX VI**

**ERROR CORRECTION MECHANISM**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: D(RGDP) | | |  |  |
| Method: Least Squares | | |  |  |
| Date: 07/16/18 Time: 15:22 | | |  |  |
| Sample (adjusted): 1983 2016 | | |  |  |
| Included observations: 34 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| D(SMCAP) | 0.149515 | 0.124553 | 1.200407 | 0.2391 |
| INTR | 65.54768 | 14.62796 | 4.480987 | 0.0001 |
| ECT(-1) | -0.692152 | 0.174739 | 3.961070 | 0.0004 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.158530 | Mean dependent var | | 1557.240 |
| Adjusted R-squared | 0.104242 | S.D. dependent var | | 1532.667 |
| S.E. of regression | 1450.585 | Akaike info criterion | | 17.48142 |
| Sum squared resid | 65230066 | Schwarz criterion | | 17.61610 |
| Log likelihood | -294.1841 | Hannan-Quinn criter. | | 17.52735 |
| Durbin-Watson stat | 1.347074 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**APPENDIX VII**

**REGRESSION RESULT**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: LOG(RGDP) | | |  |  |
| Method: Least Squares | | |  |  |
| Date: 07/16/18 Time: 15:20 | | |  |  |
| Sample: 1981 2016 | | |  |  |
| Included observations: 36 | | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | 9.237784 | 0.056745 | 162.7938 | 0.0000 |
| LOG(SMCAP) | 0.172047 | 0.008236 | 20.89013 | 0.0000 |
| INTR | -0.000850 | 0.002224 | -0.382367 | 0.7046 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.731028 | Mean dependent var | | 10.22032 |
| Adjusted R-squared | 0.926847 | S.D. dependent var | | 0.535484 |
| S.E. of regression | 0.144831 | Akaike info criterion | | -0.946843 |
| Sum squared resid | 0.692209 | Schwarz criterion | | -0.814883 |
| Log likelihood | 20.04318 | Hannan-Quinn criter. | | -0.900786 |
| F-statistic | 222.7262 | Durbin-Watson stat | | 0.180399 |
| Prob(F-statistic) | 0.000000 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**APPENDIX VIII**

**NORMALITY TEST RESULT**



**APPENDIX IX**

**GRANGER CAUSALITY TEST RESULT**

|  |  |  |  |
| --- | --- | --- | --- |
| Pairwise Granger Causality Tests | | | |
| Date: 07/16/18 Time: 15:25 | | | |
| Sample: 1981 2016 | | |  |
| Lags: 2 | |  |  |
|  |  |  |  |
|  |  |  |  |
| Null Hypothesis: | Obs | F-Statistic | Prob. |
|  |  |  |  |
|  |  |  |  |
| SMCAP does not Granger Cause RGDP | 34 | 0.30747 | 0.7377 |
| RGDP does not Granger Cause SMCAP | | 11.1036 | 0.0003 |
|  |  |  |  |
|  |  |  |  |
| INTR does not Granger Cause RGDP | 34 | 0.78109 | 0.4673 |
| RGDP does not Granger Cause INTR | | 0.28770 | 0.7521 |
|  |  |  |  |
|  |  |  |  |
| INTR does not Granger Cause SMCAP | 34 | 0.39906 | 0.6746 |
| SMCAP does not Granger Cause INTR | | 2.33574 | 0.1147 |
|  |  |  |  |
|  |  |  |  |