GOVERNMENT BOND AND CAPITAL MARKET GROWTH IN NIGERIA

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A PROJECT WRITTEN AND SUBMITTED TO THE DEPARTMENT OF BANKING AND FINANCE, FACULTY OF MANAGEMENT SCIENCES IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc) DEGREE IN BANKING AND FINANCE OF THE UNIVERSITY OF BENIN, BENIN CITY

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DECLARATION

I, **Augustina Nonso IFEOBU** do hereby declare that this project is entirely my work and composition. The work embodied in this project has not been submitted by another candidate for any degree and is not currently being submitted for any other degree. All references made to the works of other persons have been duly acknowledged.

Augustina Nonso IFEOBU **Date**

CERTIFICATION

We, the undersigned certify that this research work was submitted by **Augustina Nonso IFEOBU** and it is hereby approved for the partial fulfilment of the requirement for the award of Bachelor of Science (B.Sc) degree in Banking and Finance, University of Benin, Benin City.

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DEDICATION

I dedicate this project to God Almighty, my creator and the source of my knowledge. I thank him for his care and protection throughout my stay at the University of Benin. I also dedicate this work to my loving parent, Mr & Mrs Ifeobu, for making me a graduate through the mercy of God. May God give them long life and prosperity.

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My appreciation goes to God Almighty for His provision, love, care, guidance and protection throughout my stay in the University of Benin.

I am happy to work under my supervisor, **Dr. N. Ikponmwosa** thank him for spending his precious time going through my work and making it perfect. Also, I am immensely grateful to the Vice Chancellor, the Head of the Department, my outstanding Lecturers, and my great colleagues.

I also wish to express my profound gratitude to my parents, Mr and Mrs Ifeobu for their overwhelming support spiritually, morally, financially and encouragement throughout my program. May God continue to reward you people. Amen

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ABSTRACT

The capital market serves several purposes in an economy of a state; it promotes the free-flow of medium and long term equity and debt capital to corporations and governments that use it to execute the projects that increases the growth of the economy, it is very important that a capital market is efficient in its structure and operations so as to allure investors. This is tied to the realization of capital markets on government bonds policies.

This study empirically investigates nexus between government bond and capital market in Nigeria over the period 1999-2021. Stock returns, the dependent variable is regressed on four explanatory variables, government bond price, government bond rate, the liquidity of the bond market and real GDP. The Ordinary Least Squares (OLS) econometric technique was utilized for the estimation. The empirical findings show that government bond price and government bond rate are negatively and significantly related to stock returns. The liquidity of the bond market is positively related to stock returns but not significant. Further evidence show that real GDP has a positive and significant impact on stock returns.. Against the backdrop of the foregoing findings, improved and innovative measures to develop the capital market, particularly the development of new and diversified securities should be created in the capital market. Strengthening the legal and institutional framework to guard, regulate and to enhance the general operations of the capital market is also imperative.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Capital markets are marketplaces for interchanging of long-term financial securities. These securities include ordinary stocks, long term debt securities, such as debentures, loose debt stock, and transferable bonds. Capital market is a market where investors and prospective investors have the opportunity to find usable securities that meet their investment needs. That is, buyers and sellers of securities converge at the capital market for exchange. Fixed income security (bond) market is an important segment of the capital market in market economies because it provides long term investment opportunity for the private investors and long Term financing for companies at low cost. The Governments uses it as a low cost financing instrument for deficit Budget. Furthermore, the domestic bond market is a source of huge cashflow in the financial market which in due course expands the size of the domestic capital market. Theory has it that, a mixture of domestic and foreign Participation in the domestic debt market give rise to liquidity, and lowers the national yield curve. Thus, this research inquires into these theoretical and relations as it applies to the Nigerian capital market.

A bond is a type of debt instrument that affords the debtor the opportunity of acquiring external resources to fund longstanding projects. According to Debt Management Office (DMO), Nigeria defines bond as a contract of debt through which investors loan money

to a borrower, government or corporate companies. The financier or holder of the bond is the moneylender. When an individual acquires a bond he/she is the individual that lends money to the issuer, a Government, and, otherwise, a Company. The Government(the Federal and State Governments, Local Government Council, and Government Agencies),applies the funds coming from the bond issuance to right budget shortfalls or finance capital projects to improve the economy. Alternatively the company also uses the bond proceeds to expand their firm's business. It was postulated by Chen and Mansa (2004) that government bonds are debt/ loan instruments used by the government through a regime to provide backing for the administration expenditure plus commitments. Regime bonds are low-risk investments but debt-based. These types of debt security are associated with periodic payments of interests referred to as coupon payments. Issuer (government or cooperation) pays the coupon (referred to as the specified rate of interest) and the principal at maturity. Government uses bonds to raise funds for infrastructural and other needed provisions, while investors who invest on the bond receives common interests as their returns.

Practical understanding of government bond is necessary in the sense that an investor has lent to the Government as soon as he purchases government bond. That means the Government has borrowed, from the individual or cooperation (lender) an agreed sum amount of money for an agreed period. As a fixed income asset, the Government returns the favour by paying at interval the amount of interest known as the coupon till maturity. The maturity date is the day the bond expires, and when the bondholder is paid back the

initial investment from the Government. The maturity date of bonds varies, sometimes it can be in a year, six months, and even as long as ten years or more.

Bond is somewhat different from stocks, and the very dissimilarity between them is that stock (shares) symbolize interest right in the allotting entity. While at the other hand, bonds are a kind of obligation in which the issuer undertakes to reimburse the principal sum at a particular date. One more significant difference is that dividends are usually paid to shareholders when the issuer announces earnings. As for bonds investment, the bondholders are entitled to periodic interest payment by the issuers and reimbursement of the principal at the maturity date. The Federal government of Nigeria (FGN) bond operations are synchronized by the Central Bank of Nigeria (CBN), The Nigerian Stock Exchange (NSE), Financial Market Dealers Quotation (FMDQ), Central Securities Clearing Systems Ltd.(CSCS), and Securities and Exchange Commission (SEC)

The Nigerian capital market is somewhat new and has many factors influencing it, it is a market where long term securities are sold an bought, it is used by the governments a debt instrument used to source out funds for their finances. capital market is a market which the government use to source out funds using bonds, government, bonds are long term loan given to the government for an interest rate, moreover, the transient of government bonds will exceptionally affect the capital market in it's size and activities. According to SEC (2020) most market in the capital market that started with floated bonds. In capital market, bond market is referred to as the technique used in the exchange

of affirmativeness among buyers. The yield on Government bonds is the interest rate the government loan from, government bonds are debt instrument used by the government to finance some of its expenditure, therefore government bond as an instrument leads to the existence of the capital market room.

In Nigerian capital market, government bonds can be tracked down from the early twentieth century (20th) and bond in 1946.Federal government bonds was established in 1959 to provide long term finance to government projects and later on before the deregulation of capital market started in 1986 most revenues are sublet on regular basis. According to the CBN annual report on its fair share on government bonds, the recent challenges capital market in Nigeria is facing attributed to the economic debacle, from 2009, there are laid down rules and regulation which regulates the capital market.

1.2 Statement of the Research Problem

government bond was introduced to the capital market to source out funds for the governments and to also increase the market growth, some Nigeria capital market literature authors has recognized the remarkable influence capital market has on the economic growth and development in Nigeria, to an extent the capital market has experienced some confrontation which include; limited range of securities, an Unstable macro-economic environment, and poor system of supervision etc. This study is made to uncover if government bonds has an effect on capital market growth and economic development in Nigeria.

1.3 Objectives of the Study

The main objective of this study is to examine the relationship between government bond and capital market in Nigeria. The specific objectives include to;

i. examine the influence of government bond prices on stock returns
ii. determine the effect of government bond rate on stock returns
iii. ascertain the effect of government bond liquidity on stock returns

1.4 Research Hypotheses

The hypotheses are stated in null

i. Government bond prices do not have any significant influence on stock returns
ii. Government bond rate do not have any significant effect on stock returns
iii. The liquidity of government bond does not have any significant effect on stock returns

1.5 Significance of the Study

The significance of this study is to help the government understands when to float bonds and how to set up policies to achieve a steady macro-economic environment and encouraging the positive increase (growth) of the capital market. Investors will be able to search for better return on their investment in fixed income securities, Students will

understand the meaning of capital market growth and what government bond entails and researchers can build on this research work for further study.

1.6 Scope and Limitation of the Study

This study aim at diving into the influence government bonds has on the growth of capital market in Nigeria. Data will be extracted from Central Bank of Nigeria Statistical bulletin, stock market list in the NSE annual reports and statement of accounts, SE fact book over a period of time specifically 1999 to 2021 which is the scope of this study.

.The problem, constraint or limitation the researcher encounter are;

a) There's is limited research material available to the researcher for this research, thereby limiting the study
b) The time frame given to the researcher for this study does not encourage wider coverage as the student who's compiling this study has to merge other academic activities and examinations with the study.

1.7 Definition of Terms

Capital Market: capital market is a market where medium and long-term securities are bought and sold.

NSE: Nigerian stock exchange is where Stock and bonds are traded and also act as a regulatory body in stock exchange

Economic Growth: economic growth is the increase in market value of goods and services made or produce by an economic for a long period of time, It is measured as the percent rate of increase in real gross domestic product, or real GDP.

Government bond: It is a long term debt instruments used by the government to raise fund.

1.8 Organization of the Study

This study is arranged into five chapters, for a better comprehension. Chapter one is concern with the introduction, which consist of the overview of the study, background of study, statement of problem, objectives of the study, research hypotheses, significance of the study, scope and limitation of the study, definition of terms, Chapter two highlights the theoretical framework on which the study is relied on, therefore review of related literature. Chapter three is all about the research design and methodology adopted in this study. Chapter four concentrates on data collections, and data analysis. Chapter five concludes this study and gives recommendation made of the study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

In this chapter we discussed about the conceptual framework, empirical studies, theoretical framework and literature review on Government bonds, capital market, capital market in Nigeria, and how they are related to the growth of capital market in Nigeria

2.1 Conceptual Framework

2.1.1 Bonds and the Bonds Market

According to (Adeleke, 2006), a bond simply is an IOU issued by a corporation government agency that pays interest to the lender. (Adyorough, 2011), defines a bond as a long-term debt instrument issued by an entity, company or government as an evidence of a promise to pay. Bonds are generally issued for a fixed term (the maturity) longer than one year. In terms of saver-operator basis, (Appah & Soreh, 2012), gave the description of a bond as a contract which the holder a financial claim on the issuer. The bond market (also known as the credit or fixed income market) is a financial market where participants can issue new debt, known as issue in the primary market, then sell debt securities issued, in the secondary market(This issue may come in as pension fund, mutual fund etc.) usually in the form of bonds (Wikipedia, the free encyclopaedia, 2010).

The primary goal of the bond market is to provide a mechanism for long term funding of public and private expenditures.

In the financial system, much importance is yet to be placed on the bond market. (Braun & Briones, 2006), strive that in comparison with bank loans and trade credits, which are the most important sources of external finance in the European union (ECB, 2001:42), stocks and bonds play a less important role as financing instruments. Even in the United States of America (USA) whose system is commonly classified as securities oriented, external transactions of non-financial corporation's tend to be dominated by credits and loans (ECB, 2001: 44). (Kapingura et al., 2014), in a bonds and loans conference said that the sub-Saharan debt markets are mostly dominated by short-term government securities, with activities focused on the domestic primary market and limited activity in the secondary market.

Corporate debt markets are largely non-existent in Africa, with the exception of South Africa and, to a limited extent, some North African markets. Various studies have been carried out on bond market development in different parts of the world. The focus has been on how the bonds market as an integral unit of the financial system could be used as a veritable instrument for promoting real sector investment and overall economic growth. For instance, (Kapingura & Makhetha-Kosi, 2014) suggest that, the impact of the bond market on an economy in an area which is still at its infancy, will possibly fail because the market has been an insignificant portion of the financial markets. Also, (Kapingura et

al., 2014), in a study showed that a deep and well-functioning domestic debt market play an important role in financing government budgets as well as facilitating the flow of long term financing from investors to private enterprises. In another study made in Kenya, (Koka, 2012) argues that bond markets reduce the over reliance on bank lending for debt financing and that these markets also minimize the exposure.

Metaphorically, he examined the recent trends in debts markets development in the emerging economies with particular reference to the domestic debt markets in Asia, Latin America and Emerging Europe for the period 1994 – 2000. They found that; despite considerable growth primarily due to public sector deficits associated with fiscal adjustment and related banking and corporate sector reforms, domestic debt markets remains small compared to other developing countries. Public sector debt issues on average account for two – third (2/3) of domestic debt market volume. Banks hold the largest proportion of bonds in domestic markets; industrial investors have become key holders of domestic debt in Latin America and Central Europe.

Ogboi and Oladipo (2012) examined bond market developments in Nigeria. Majorly, they found that the bond market is still dominated by public issuers and bank-based intermediation. Similarly to the European Union (EU), corporate bond issuance was driven by the telecom and utility sectors. Rising demand from pension funds and limited bank loans volume carry the potential for growth of the corporate bond sector.

2.1.2 Overview of the Nigerian Bond Market both in the Primary and Secondary Market

As in many developing countries, the bond market in Nigeria is mainly government dominated with the Central Bank of Nigeria (CBN) acting as sole issuing house until recently (Soludo, 2005). From the inception of the bond market in 1986 till 1986,the bond market was fully dominated by Federal Government Development Stocks. Following the restructuring of the economy (due to SAP), the Federal Government withdrew this particular Stocks in the market in order to enable the financial sector develop a well-defined capital market or stock market which is not based on the public sector investment. The federal Government of Nigeria (FGN) bond market reopened in 2003. According to VETIVA (2010), "since the reopening of the FGN Bond market in 2003, the debt management office (DMO) has offered FGN bonds worth N2.51trillion which have attracted subscriptions of N4.55trillion while N2.52trillion had been allotted".

The Nigerian primary bond market as a subunit of the Nigerian capital market is relatively small when compared to similar markets in a developed economies. Nevertheless the market has experienced rapid transformation. The market capitalisation was at N19.36trillion as at 2021 as against N26.9trillion in 2020, N3.02 trillion as at May 2011 compared to N108.5bnas at 2009. In September 2011, the total market turnover of the Nigerian domestic bond market is given as N19.36trillion though much less than the

turnovers in similar markets of the developed economies. The domestic bond market decline by 106 percent to N4.55 trillion between 2020 and 2021. Though it more than tripled the level issued in 2019, the supply of FGN Bonds has lagged sharply behind in relation to the surging demand during the year. For instance, the Debt Management Office (DMO) offered a total of N396.50bn of FGN Bonds as at the end of first half of the year (HY1 2011). This is about 13.80 percent lower than, and contrasts with the N460bn offered in HY1 of 2010. (BUSINESSDAY, 2011, Sept. 01). In Nigeria, An active secondary market is important to the development of the domestic bond market. Until recent developments "Nigeria did not have a primary dealer/market for government bonds. Currently over the counter (OTC) market exists in the Nigerian bond market. Market capitalization stood at N3.02 (BUSINESSDAY, 2011 30 June). Market size grew from 3.93 billion units in 2007 to 13.75 billion units in 2010. In the past two years long term issues characterised the Nigerian bond market, accounting for some 43 percent of total issues in 2010 from 23 percent in 2008. By the second half of 2010, the Yield Curve, a measure of the return on fixed income securities and the secondary bond market performance was fairly low in the Nigerian domestic bond market. Theory says there is an inverse relation between bond yield curve and interest rate, for example inflation and price of bonds. The yield curve is simply "a graph showing bond yields on the vertical axis and different maturities lengths of any type of debt instrument such as government bonds and notes on the horizontal axis". Rising interest rates results in lower prices of bonds especially the long tenors fixed income securities. One explanation is that bond

investors are exposed to higher interest rate fluctuations; the longer they hold a bond into an uncertain future. This higher rate of return when used to discount a bond's cash flow reduces the price (Pandey, 2008).

2.1.3 The Nigerian Stock Market in Perspective

The development of the Nigeria Capital Market dates back to the late 1950s when the Federal Government through its ministry of industries set up the Barback committee to advise it on ways and mean of setting up a stock market. Before independence, financial operators in Nigeria comprises mainly of foreign owned commercial banks that provided short-term commercial trade credits to foreign companies with offices in Nigeria (Ogboi et al., 2012). Their capital balances were invested abroad in the London stock Exchange. Thus, the Nigeria Government in an attempt to accelerate economic growth embarked on the development of the capital market. This is to provide local opportunities for borrowing and lending of long-term capital by the public and private sectors as well as an opportunity for foreign-based companies to offer their shares to the local investors and provide avenues for the expatriate companies to invest surplus funds. Based on the report of the Barback Committee the Lagos Stock Exchange was set up in 1959. With the enactment of the Lagos Stock Exchange Act 1961, it commenced business in June, 1961 and assumed the major activities of the stock market by providing facilities for the public to trade in shares and stocks, maintaining fair prices through stock-jobbing and restricting

the business to its members. The Lagos stock exchange was renamed the Nigeria Stock Exchange in 1977, with the following objectives;

1. To provide facilities to the public in Nigeria for the purchase and sale of funds, stocks and shares of any kind and for the investment of money.
2. To regulate the dealings of members interest and those of their clients.
3. To control the granting of a quotation on the stock exchange in respect of funds, stocks and shares or any company, government, municipality local authority or other corporate body.
4. To promote, support, or propose legislative or other measures affecting the aforementioned objectives.

Initially trading activities commenced with two Federal Government Development Stocks, one preference share and three domestic equities. The market grew slowly during the period with only six equities at the end of 1966 compared with three in 1961. Government stocks comprised the bulk of the listing with 19 of such securities quoted on the Exchange in 1966 compared with six at the end of 1961 (Nnanna, Englama and Odoko, 2004). Prior to 1972 when the indigenization exercise took off, activities on the Nigeria stock exchange were low. That was true both in terms of the value and volume of transactions. NSE consist of 3 tiers market. The first tier market is the official list that comprises of 198 securities and most activity on the NSE is on the first tier. The second tier market list comprises 15 securities and the third-tier securities market is designed for

Small and Medium Scale Enterprises (SMEs). The rules and regulations differ between the tiers. The major instruments/products available in the Nigerian capital market to date include; the industrial equities otherwise referred to as ordinary shares; industrial loans such as debentures, unsecured zero coupons, preference bonds/stocks, specialized project loans/infrastructural loans, government stocks/ bonds, unit trust schemes, unlisted corporate/industrial loans stock, among others. The market is currently divided in to two broad categories, namely equities and debt markets. The former are instruments or products that confer ownership rights on the investor, while the later are interest-bearing obligations with fixed or floating interest-rates.

According to Ekoko (2007), the institutions that make up the capital market include:

- Insurance companies
- Other financial institutions dealing in long-term funds; and
- The stock market

The NSE is the primary operator in the Nigerian capital market. (Beck, 2003) describes the stock exchange as a "primary capital market in which companies and other institutions can raise funds by issuing shares or loan stock but it is more important as a secondary market for buying and selling existing securities. (Beck, 2003) said that the stock exchange is made up of the following elements:

- Place – this represents the forum, physical or otherwise, for conducting transactions in stocks;

- Mechanism – this includes the operative issue and transfer procedure;
- Institutions – these include regulatory agencies, issuing houses, the stock broking firms, etc.
- This stock market is made up of two segments which are the primary and the secondary market. (Kapingura et al., 2014) describes the primary market as the market for the issuance of new funds or securities. The secondary market is the market in which the holders of financial instruments can sell them to other investors. (Beck, 2003) says that "the secondary market is the vehicle for providing liquidity to investors."

2.1.4 The Concept of Capital Market

Ogboi et al. (2012), defines capital market as a collection of financial institutions set up for the granting of medium and long term loans. It is a market where investors (lenders) provide long term funds in exchange for long-term financial assets offered by borrowers. The capital market could be seen as a mechanism where economic unit desirous to invest their surplus funds interact directly or through financial intermediaries with those who wish to procure funds for their businesses (op. Cit). Capital market could be seen also as a market in which those individuals, institutions and governments who have funds surplus to their immediate requirements can employ them profitably (1bid). The capital market is a long term and financial market. It is made up of market and institutions, which facilitates the issuance and secondary trading of long-term financial instruments.

Unlike the money market, which functions basically to provide short-term funds, the capital market, provides funds to industries and governments to meet their long-term capital requirements such as financing for fixed investments like-buildings, power, plants, airports, rail lines, roads and bridges. They are of the view that the market is a market for raising and investing long-term funds with maturity periods ranging from 10years and above. The market is a network of financial institutions and infrastructure that interact to mobilize and allocate long-term funds in the economy.

2.1.5 Roles of the Nigerian Capital Market

(Sunday et al., 2009) are of the view that the market performs unique roles that may not be performed by any other market. The Nigeria Capital Market performs a lot of roles in the development of it's economy. Some of the roles includes:-

- Opportunities for companies to borrow funds for investment purposes.
- An avenue for marketing of shares and other securities of the investing public, in order to raise fresh funds for expansion of operations of companies.
- Opportunities for governments to finance their projects, including infrastructure for social-economic development.
- Provides needed seed money for venture capital and encouraging good corporate governance by ensuring transparency, good accounting and management practices. The above could be achieved through full disclosure requirements of

the market during and after accessing it. This requirement facilitates rational investment decision making by investors.

Watts et al. (1988) are of the view that capital (stock) market performs roles like promoting long-run-economic growth, encouraging specialization, facilitating the acquisition and dissemination of information. The market helps in reducing the cost of mobilizing savings and facilitates investment (Greenwood and Smith 1997). A well developed market many enhance corporate control by mitigating the principal agent problem through aligning the interests of managers and owners, in which case managers would strive to maximize firm value. They are of the opinion that, the market is expected to increase economic growth by increasing the liquidity of financial assets, make global and domestic risk diversification possible, promote wiser investment decisions, and influence corporate governance (ie solving institutional problems by increasing shareholders value interest. The market has a very pertinent role, which is to act as the best indicator to forecast future economic activity and describe actual causal effect between future economic growth and stock process (Yarteyet, 2008). He is of the view that stock market manipulates economic growth through a number of channels may include liquidity, acquisition of information, savings, mobilization, corporate governance and risk diversifications. Stocks exchange which is an activity of the capital market increases the wealth of investors through dividend and stock price increases that may result in capital gain. It also avails the investor the opportunity of sharing in the wealth of profitable business. As opposed to other business that requires huge capital outlay,

investing in shares is open to both the large and small stock investors because a person buys the number of shares they can afford. Therefore the stock exchange provides the opportunity for small investors to own shares of the same companies as large investors.

2.1.6 Nigerian Stock Exchange Specific Reforms

Nigerian Capital Market has advanced having undergone several reforms over the years. Before the emergence of capital market (1959), almost all savings and deposits in Nigeria were in the banking system. The country's major capital totals were invested on the London Stock Exchange via London-based stockbrokers. The Nigerian capital market effectively came into existence with the establishment of the Lagos Stock Exchange in 1960, which began actual trading in 1961. The Nigeria stock exchange (NSE) was incorporated under the Companies' Ordinance as an association, limited by shares initially, but became a company limited by guarantee in 1990. It received initial financial support from the CBN through an annual subvention. It was previously known as Lagos stock exchange before it was changed to Nigeria stock exchange (NSE) in 1977 following directions from the Government Financial System Review Committee of 1976. In addition to the Lagos bourse, NSE opened trading floors in Port Harcourt and Kaduna in 1980 and has since added Kano, Yola, Calabar, Ilorin, Uyo, the recent being the Abeokuta branch commissioned in November 2008. Some specific reforms has been carried out on the NSE over the years to make the exchange more efficient. Some of the developments in the NSE are identified in SEC (2020) as follows:

- Automated Trading System (ATS) – this is one of the most outstanding innovations in the securities market in Nigeria. The ATS is a system of security trading arrangement whereby transactions are conducted through a network of computers. Before ATS was introduced, the call over system was used and this system made the settlement cycle on the NSE to be 21 days. ATS was launched on the 27th of April, 1999.
- Central Securities Clearing System (CSCS) – The NSE commissioned the CSCS in 1997 as a subsidiary but it came into operation on the 14th of April, 1999. According to the Securities and Exchange Commission (SEC, 2020), the CSCS was conceived as primarily a settlement arena for the achievement of the T-3 settlement cycle. The CSCS serves as an interface with the ATS and automatically receives data relating to trade as they take place for settlement.
- On-line Trading - The NSE has been able to link some of its branches that have large daily transactions to the central server at the Customs House, Lagos, Abuja, Kano, Yola, and Port Harcourt. Branches are now fully integrated to the main trading platform. Stockbrokers residing in these areas do not have to be in the Lagos trading floor to trade anymore.
- Remote Trading – As part of the reform in the NSE, in order to make it efficient, in 2004, the exchange introduced remote trading. Remote trading is a system where brokers trade from the comfort of their offices. The computers of the stockbrokers are connected to the main trading machines through one of the safest

connection devices. This system guarantees safe delivery of data from the mainframe of the trading machine to the computers in the office of stockbrokers. The objective of this system is to eliminate the formal trading floor.

- The Trade Alert – This was introduced in 2005 and generated a lot of controversy. This system was introduced as a means of protecting the securities market against ever increasing threats from fraudsters. The trade alert is a device which, when subscribed to by a security holder, will send a notice to the security holder's mobile phone indicating elaborately all transactions taking place in his accounts in the CSCS. The aim of this device is o stop any unauthorized trade, before it takes place thereby protecting the investment.

2.2 Theoretical Framework

The basic theoretical foundations that link government bonds to economic performance may be found in the Ricardian equivalence hypothesis which has been incorporated in standard neoclassical growth models. This hypothesis presents conditions within which bond financed government deficits may provide less-than desirable growth effects on the economy, especially in the long run. The Ricardian argument is based on the insight that lower taxes and a budget deficit today require (in the absence of any change in government purchases) higher taxes in the future. Thus, the issuing of government debt to finance a tax cut represents not a reduction in the tax burden but merely a postponement of it. If consumers are sufficiently forward looking, they will look ahead to the future

taxes implied by government debt. Understanding that their total tax burden is unchanged, they will not respond to the tax cut by increasing consumption. Instead, they will save the entire tax cut to meet the upcoming tax liability; as a result, the decrease in public saving (the budget deficit) will coincide with an increase in private saving of precisely the same size. National saving will stay the same, as will all other macroeconomic variables. In essence, the Ricardian argument combines two fundamental ideas:

1. The government budget constraint

2. The permanent income hypothesis.

The government budget constraint state that lower taxes today imply higher taxes in the future if government purchases are unchanged;

The present value of the tax burden is invariant to the path of the tax burden. The permanent income hypothesis says that households base their consumption decisions on permanent income, which depends on the present value of after-tax earnings. Because a debt-financed tax cut alters the path of the tax burden but not its present value, it does not alter permanent income or consumption. Thus, all of the predictions of the conventional analysis of government debt no longer hold.

The theoretical application more relevant in our study is the extension of the Ricardian equivalence hypothesis by (Harvey, 2009) where he argued that government bonds may

not constitute net wealth. The theory noted that to the owners of government bonds, the bond represents an asset. But to taxpayers, a government bond represents a liability. A debt financed tax cut is like a gift of government bonds to those getting the tax cut. This gift makes the holder of the bond wealthier, but it makes taxpayers poorer. On net, no wealth has been created. Because households in total are no richer than they were, they should not alter their consumption in response to the tax cut. This theory therefore notes the inability of government bonds to stimulate aggregate expenditure and hence growth through the Keynesian channel. However, later theoretical postulations have noted that the presence of Ricardian equivalence my not apply to bonds markets effectively for two reasons: Private sector participation in the bond market through issuance and the general development of the financial markets with fewer imperfections.

The theoretical issue develops in this form: For households that discount future utility highly or that expect rapidly rising income, the optimal consumption path may require consuming more than their income when young (and less when old) by borrowing in financial markets. The possibility of default and bankruptcy, however, may prevent these households from borrowing for the purposes of current consumption. In this case, the optimal strategy is to consume all of current income and holds exactly zero assets.

This line of argument was strengthened by the theoretical explanations provided (Beck, 2003) within a new Development Finance theory that a strong relationship exists between financial market development and economic development. This was a theoretical

framework within which growth effects of financial-system development can be derived. They argue that when financial markets are allowed to function efficiently, any increase in debt (either by government or private sector) will directly increase savings and also lead to a rise in the returns on investment. This will stimulate net private investment and growth in the long run.

2.2.1 The Relationship between Stock Return and Government Bond Price, it's Rate and How it Influence the Capital Market Growth

Stock return is the profit that is gained from stock investment at a period of time, it is a Return/profit made by a shareholder over an investment for a period of time, stock return is the positive or negative difference in the value of an investment or asset over time. A positive return means a profit has been made on the investment while a negative return means that there has been a loss on the investment. Total stock market returns includes interest payment, dividends and as well as the price change in the stock. The change in stock price alone is referred to as a nominal return. Empirical findings made on stock price shows that returns are predictable cross-sectional and by time. The discussions about prediction of stock price behavior started with Markowitz (1952) with his article – Portfolio Selection-. Markowitz won Nobel Prize in 1990 for his research about portfolio theory. Although he has been arraigned by many economists since the implementation of the theory need a lot of effort to evaluate data and since he used historical data the prognosis may not be correct, in addition, it is not true in reality that the assumption of

stock returns are normally distributed. Sharpe, Lintner, and Mossin independently developed a model which has come to be known CAPM (capital asset pricing model) in 1964, 1965, and 1966 respectively. Beta coefficient is a key parameter in CAPM world. Beta measures risk of an asset in relation to the market such as S&P500 or an alternative factor. Actually the CAPM is a simple model which is based on sound reasoning and some of the assumptions -all investors have the same information, information is costless, and there are no taxes transactions costs- are unrealistic in market. Arbitrage pricing theory represents a better estimation for stock returns than CAPM. CAPM is a modified theory while APT is a completely different model. APT's multiple factors provide a better indication of asset risk and a better estimate of expected return. A long literature exists on prediction of stock market returns. Davis (2001) tried to explain the behavior of stock returns by analyzing a huge literature written in this field. He claimed that value and size factors has significant explanation to the behaviour of stock return in US market. Lewellen (2000) argued further in his doctoral thesis that predictability of stock returns is possible like many others. Although predictability of stock returns by using conventional tests is accepted generally by economists there is no consensus about it. Campbell and Yogo (2006) claimed that the tests used for the predictability of stock returns can be invalid.

Government bond on the other hand is a debt instruments issued by the government to support government spending. It generally includes an obligation to pay periodic interest, called yield, and to repay the face value on the maturity date. It is issued by the

government of a state to support it’s spending and obligation, it’s a fixed-income security issued and backed by a country's federal government, government bond is a type of debt-based investment, where you loan money to a government in return for an agreed rate of interest. Governments use them to augment funds that will be used on new projects or infrastructure, and investors can use them to get a set return paid at regular intervals. While all investment incurs risk, government bonds from an established and well stabled economy are considered as being a comparatively low-risk investments.

Bond and stock are both traded in the capital markets as discussed above , bond is a government debt instruments used to finance some government expenditure that needs funding while stock are investment made by shareholders when buying the share of a company. Government bond price can affect the return on stock in the sense that when bonds prices goes under, stock prices move up thus causing an decrease on stock, and when bond prices moves up, stock prices goes under interchangeable thus causing an increase in stock return . Stock return is the return made from an investment.

A government bond works in the same way as any other fixed-income security in the sense that they offer compensation through periodical coupon payments and/or by selling the issue at a discount of its par value, also known as zero-coupon issues. These zero-coupon bonds are securities that do not offer any kind of interest payment. Instead, they are sold at a discount of their nominal value. Meanwhile, coupon payments (if applicable) are usually distributed on a quarterly or annual basis and the nominal interest rate of

government bonds is typically lower than that of corporate bonds although this is not always the case.

The Federal government reserve management, controls interest rates through open market operations (OMO). When the Fed wants interest rates to fall, it issues out bonds. That's the same as increasing demand for the nation's bonds, which makes stock value rises as with all bonds, when bond values rise, interest rates and stock prices to go reduces, Sometimes, both stocks and bonds can increase in value at the same time, and this happens when there is too much cash or liquidity, chasing too few investments. This happens at the top of the market. It could occur when some investors are optimistic and others are pessimistic. For now interest rate is no longer an average drag on return and may even be a positive.

2.3 Empirical Studies

The part government bonds play in promoting the capital market in Nigeria cannot be underestimated. It is a current issue that has ignited so much debate among finance analyst, finance analysts, economist, researchers and development specialists. Despite the sensitivity of this subject matter, there is still a scarcity of real works colluding government bonds' efficacy in expanding the capital market in Nigeria. This study will help to bridge the gap by providing empirical evidence on government bonds' influence on capital market development in Nigeria, it will invariably assess the four major components of government bonds in Nigeria and the level of change they have caused in

the capital market evolution. Ndinda (2011) investigated the correlation between the issuance of treasury bonds and Kenya's economic growth from 2003–2011 with regression scrutiny. This study found out that government bonds had a direct positive effect on an economic expansion. Yibin, Phelps, and Stotsky (2009) analyzed African bond markets' growth using an econometric model focusing on critical causes of African government securities market and corporate bond market capitalization. The also found out that government bonds has a direct relationship with interest rate fluctuations and the economy's size. Kibert (2011) extended this study in Kenya by assessing the influence of government bonds on Kenya's assets market growth from 2004–2014 using vertical analysis. The study results shows that government bond has a outstanding advantageous influence on Kenya's capital market growth. Coskun, Seven, Ertugrul, and Ulussever (2020) explored more by checking the nexus between Turkey's capital market and economic growth from 2006–2016. The study applies capital market sub-components, including mutual/pension funds, corporate bond, and stock and government bonds by using ARDL, Kalman Filter, and Markov Switching Regression, and it also establish the long-run co-integrating relationship between the capital market development and economic growth. The study also found that the government bond negatively impact growth, while the other sub-components were positively affecting economic growth.

The connection between bond market growth, fiscal growth and overseas asset in a number of nations was made to determine capital market growth. The central focus of this study is the government bond. This study takes samples from some developing

countries in America, Europe, Asia and Africa from 2004–2015. The outcome of this research revealed that there is a short-run and long-run co-integration in each sample. The study also found out that no basis in all countries was sampled. In addition, a univariate correlation was found in Indonesia, Mexico, and Thailand, Olaniyan and Ekundayo (2017) researched the end product of administration bonds on Nigeria's wealth market from 2010–2017. The study used the Generalized Method of Moments regression technique and discovered that government bonds has a significant and positive outcome on Nigeria's capital market growth. It also disclose that when government bonds reduces, the capital market's resultant impact will be negative.

Hoque, Rakhi, Hassan, and Le (2010) used capital asset pricing model and non-parametric stochastic dominance approach to assess the results of Islamic and Conventional Stock Portfolios for five industrial sectors and the market in Malaysia. And found out that both portfolios had an equal productivity in the market. However, it further disclosed that Islamic Stock Portfolio has a higher return with a lower systematic risk. Which confirms Markowitz Modern Portfolio Theory, that imply that portfolio mix strategy aid an investor to easily soak up investment risk shocks, that happens due to the varying return outcomes within the portfolio.

The financial sector provides basic services necessary for sustainable economic growth; hence many financial economists argue that financial reform has a particularly important role in economies in the developing and developed economies (World Bank, 2014). This

branch of literature grew rapidly during the past two decades (Trew, 2006). Recent increase in frequency of financial crises also prompted strong research interest in this area. Several empirical studies have been conducted on financial reforms and financial system development in developing and developed economies. This section reviews prior research to establish the gaps in the literature and also to serve as a basis for validation of the findings. Arestis (Johansen, 2018) using time series data from five developed countries and using VAR framework, examined the correlations between economic growth and stock market development, controlling the effects of banking system and stock volatility. They measured output by the logarithm of real GDP and stock market development by the stock capitalization to GDP, banking system development by the logarithm of the ratio of domestic credit to nominal GDP, stock market volatility by the eight quarter moving standard deviation of the end of quarter change of stock market prices.

Their results suggest that although both banking and stock market promote economic growth, the effects of the former are more powerful. They support the view that bank based financial system may be more to promote growth than capital market based system. Limi (2003) study of reforms in the banking sector over the period 1997-2001 of five major state banks to examine the efficiency changes during and after the banking sector reform.

2.3.1 The Linkage between Capital Market and Economic Growth

Recently there was a growing concern on the role of stock market in economic growth. The stock market focuses on the economist and policy makers attribution because of the perceived benefits it provides for the economy. Stock market provides blueprint for capital market activities and it is often known as the barometer of business direction. An active stock market may be relied upon to measure changes in the general economic actives using the stock market index (Samuel, 2012). The stock market is regarded as a complex institution with inherent mechanism through which medium or long-term funds of the major sectors of the economy comprising households, firms and government are gathered, harnessed and made available to different /various sector of the economy. The growth of capital market, and apparently the stock market, provides opportunities for greater funds mobilization, improves efficiency in resource allocation and provision of relevant information for appraisal.

There is an increase in the developed and emerging stock market with a substantial part of the growth accounted for by the emerging market. Reasons for this are that:

1. investing firms enjoy lower cost of equity when the stock market works efficiently.
2. There's an opportunity to trade securities and also hedge one allow for reduction in risk.

3. Thee ability of the market to adjust share prices and at the same time imposes control on the investment behavior of firms.
4. Countries that has the desire for foreign investment are able to secure it, through the stock exchange.

Stock market devotes to economic growth through some distinguish services it performs either directly or indirectly. Notably among the functions of the stock market are risk diversification, creation of liquidity, mobilization of savings, acquisition of information and improved dissemination, and also enhances incentive for corporate control. It also boost the efficiency and effectiveness of these functions, through on time delivery of their services which can increase the rate of economic growth.

Schuttle (2005) states that securities investment is a valid medium of transforming savings into economic growth and development in Nigeria. It has facilitates the expansion of capital market thereby promoting trading in stock and shares. He reported that Harry Johnson in 1990 acknowledge that one of the conditions of being developed relates to having a large stock of capital per head, which must always be replaced and refilled when used up. Where the lacking condition of being under developed prevails.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, the research will centres more on the methodology used in this study. It will outline the methods used in researching, i.e, the research design, the population sample, the sampling technique, and the method of data collection and data analysis. This is to make certain that this work is authentic, verifiable and error free.

3.2 Research Design

Research design is the plan, structure, and strategy of an investigation conceived so as to obtain answers to research questions and control variance. The plan is the overall scheme or program of the research. It includes an outline of what the investigator will do, from writing the hypotheses and their operational implications to the final analysis of the data.

The essence of this study is to understand the influence of government bonds on capital market growth in Nigeria, which simply means that the study aims to determine the influence government bonds have on the growth of capital market and how it affects the economy. Consequently, this study will imitate the finance literature by adopting an ex-post facto research design and empirical analytical methods to estimate the functional relationship between the trigging factors examine the influence of government bond

prices on stock returns, determine the effect of government bond rate on stock returns and ascertain the effect of government bond liquidity on stock returns.

A quasi-experimental design used to investigate how an independent variable affects a dependent variable is known as ex post facto research. This design is adopted because the researcher has no control over the variables of this study as a result of the fact that the conditions for the study have already been established before the study is conducted.

3.3 Source of Data

This is a quantitative study that uses secondary data sourced from the Central Bank of Nigeria Statistical Bulletin and the banks' Annual Report from 1999 to 2019due to several interest rate policy reforms that occurred during this period and as captured in the Central Bank of Nigeria Statistical Bulletin, Panel time-series data were extracted based on the variables used in the study. Stock return after removing the cost incurred as a result of either change in price or interest rate of government bond is the dependent variable, while return on gross domestic product is the independent variable.

3.4 Model Specification

A simple linear model would enable us to establish the relationship between government bonds rate and price on the growth of capital market, the return on stock and how it affects the economy as a whole, it is formulated as follows:

$$Stock\ Return = f(GBP, GBR, GBL\ and\ RGDP) \quad \text{.. (1)}$$

Where:

Stock return =is the return on investment

GBP=Government bond price

GBR= Government bond rate

GBL= Government bond liquidity

RGDP= Return on gross domestic product

Stock return= f (GBP, GBR, GBL, RGDP)..... (1)

Equation 1 could be expressed mathematically as:

Stock return= $\beta_0 + \beta_1$GBP + β_2GBR + β_3GBL+β_4RGDP+ μ.....(2)

Here stock return is the dependent variable while GBP, GBR, GBL are used as the explanatory variables in the model. B_0 is the intercept, B_1 to B_4 are the unknown parameters and U is the random term (stochastic variable).

3.5 Technique of Estimation

The study employs the inferential statistics in analyzing the time series data used. The inferential statistics involved estimating the simple linear regression model using the Ordinary Least Square technique (OLS).

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

The focus of this chapter is on the presentation and empirical analysis of results based on the empirical strategy adopted for the study. The study seeks to examine the relationship between government bond and capital market in Nigeria. Stock return, the dependent variable regressed on four explanatory variables, government bond price (GBP), government bond rate (GBR), government bond liquidity (GBL) and real GDP (RGDP). The study employs OLS econometric technique for the empirical estimation of the model. The result of the OLS estimate is presented in the Table 4.1.

Table 4.1: OLS Result Estimates

Dependent Variable: ASI

Variables	Coefficient	T-Ratios	Prob.
Constant	0.032	0.696	0.46
GBP	-0.083	-2.281	0.03
GBR	-0.056	-2.173	0.03
GBL	0.092	1.371	0.18
RGDP	0.422	2.669	0.01
$R^2 = 0.870$ Adjusted $R^2 = 0.841$	F = 17.21	DW = 1.68	

Source: Author's computation from Eviews Output

An examination of the results show that an adjusted R^2 of 0.841, implying that approximately over 84 percent of the net systematic variations in stock return is explained by the combined explanatory variables, indicating the bond market, as well as real GDP. This is an indication of a high predictive power of the model. The overall goodness of fit statistic indicated by the F-value is 17.21 is highly significant at the 1 percent level. Thus, the hypothesis of a significant linear relationship between government bond and capital market is validated. The Durbin Watson Statistic of 1.68, is easily approximated to 2, indicating the absence of serial correlation in the model. This makes the estimated model fit for policy formulation and implementation.

In terms of the contribution of the individual variables, consideration is put on their respective signs as well as their t-ratios. A critical observation reveals that all the coefficient of the independent variables have the correct signs in line with financial and economic theory. In particular, two of the explanatory variables- government bond price and government bond rate are negatively related to stock return and are individually significant at the 5 percent level. This results thus validates the inverse relationship between bonds and stock return, such that an upward movement in stock returns leads to a downward performance in bonds (both bond price and bond rate). Bond affect the stock market because when bond prices go up, stock prices tend to go down, vice-versa. Bonds compete with stocks for investors' money since bonds are often considered safer than stocks, though with a lower return on bonds. The findings are in consonance with the results of Limi (2003) and Arestis and Johnson (2018).

The coefficient of government bond liquidity is positively signed with stock return but not significant at the 5 percent level. Thus, liquidity in the bond tend to enhance stock returns as overall liquidity in the capital market is critical to the smooth running and operations of the entire capital market, although the effect is weak, given the underdeveloped capital market in developing countries, including Nigeria.

The coefficient of real GDP is positively related with stock returns and passes the significance test at the 1 percent level. Invariably, increased economic growth and the resultant increase in economic activities tend to stimulate stock market activities. Apparently, as economic activities increases, stock market activities is concomitantly stimulated. The finding is consistent with the findings of Limi (2003).

Overall, the empirical results are quite revealing of the fact that bond have inverse and significant impact on stock returns in the capital market. This is an important issue for both investors and policy makers.

4.2 Test of Hypotheses

In order to investigate whether the null hypotheses are accepted or rejected, the hypotheses are tested as follows:

Hypothesis 1:

Government bond prices do not have any significant influence on stock returns. Given the empirical results, the t-ratio of the coefficient of bond prices with a t-value of 2.28 (in

absolute terms) is significant at the 5 percent level. We therefore reject the null hypothesis and accept the alternative hypothesis.

Hypothesis 2:

Government bond rate do not have any significant effect on stock returns. From the empirical results, the t-ratio of the coefficient of bond rate with a t-value of 2.17 (in absolute terms) is significant at the 5 percent level. The null therefore is therefore reject in favour of the alternative hypothesis.

Hypothesis 3:

The liquidity of government bonds do not have any significant effect on stock returns. Based on the empirical results, the t-ratio of the coefficient of government bond liquidity with a t-value of 1.37 (in absolute terms) fails the significance test at the 5 percent level. The null therefore is therefore accepted.

4.3 Discussion of Findings and Policy Implications

The findings of this study have strongly important implications. First, a significant inverse relationship exist bond and stock returns. Invariably, with increases in stock market returns, the return on bond, including bond prices tend to diminish. Naturally, as more investors sell their stock, the further stock prices could fall at a higher bond rate. This opposite movement between stocks and bonds has vast substitution effect in portfolio diversification.

Second, the liquidity is positively related to stock returns. Invariably, market liquidity as a whole has critical important in the financial market. With improved liquidity, overall trading and equity transactions are stimulated. Enhanced equity transactions, is a reflection of a lubricating economy. Since liquidity is the ease and speed at which economic agents are able to buy and sell securities, initial investors do not lose access to their savings for the duration of the investment project because they can easily, quickly, and cheaply, sell their stake in the company (Yartey, 2008). By implication, more liquid markets could ease long term, investment, potentially more profitable projects, thereby improving the allocation of capital and enhancing prospects for long term growth. Ina addition, the more liquid the stock market, the larger the amount of savings that are channeled through the stock market. Thus, a more liquid stock market leads to higher market development. Liquidity-enhancing policies are therefore important to the successful operation of the Nigerian stock and capital market.

Finally, the evidence shows that increase economic activities (output/growth) tend to positively and significantly influence capital market performance. Since capital market operates as a microcosm of the entire economy, improved economic performance will definitely engender increase stock market activities in the form of trading and transactions. A favourable growth of the economy is thus important to the growth and development of the Nigerian capital market.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND POLICY RECOMMENDATIONS

5.1 Introduction

This chapter is concerned with the summary of findings from the empirical analysis as well as the conclusion. The policy recommendation necessitated by the finding is subsequently presented for desired policy action.

5.2 Summary of Findings

This study empirically examined the nexus between government bonds and capital market in Nigeria. Using annual time series data covering the period 1999 to 2020, the Ordinary Least Squares econometric tools was utilized. Based on the empirical analysis, the following specific findings were made:

(i) Government bond price is inversely and significantly related to stock returns in Nigeria.

(ii) Government bond rate has a negative and significant effect on stock returns in Nigeria.

(iii) The liquidity of the bond market is positively related with stock return, but the effect is not significant.

(iv) Real GDP- a measure of economic output/activity is positively and significantly related to stock returns in Nigeria..

5.3 Conclusion

The operations of stock market tend to go in opposite direction with that of the bond market. No doubt, for the purpose of fruitful investments decision, proper investment acquaintance is important. Importantly, there is need for a good understanding of the determinants of investment yield, as this will help in making wise and optimal decisions.

Although investment decisions and returns vary in relation to the risk involved, it is important that investors, government and policy makers understand the dynamics of each for proper investment taking and policy formulation. Given the structural peculiarities of the Nigerian financial system, particularly, the underdeveloped capital market, there is need for the creation of a sound and sound and stable macroeconomic policy environment, strong institutional and regulatory frameworks and effective governance to activate the rapid growth and development of the Nigerian capital market for enhanced investment opportunities. It can be postulated that the development of a more robust and stable financial structure will improve the ability of domestic financial systems to contribute to rapid economic growth in Nigeria.

5.4 Policy Recommendations

Based on the empirical findings of this study, the following policy recommendations are suggested for policy action.

(i) Strengthening and development of the financial sector, particularly, the deepening of the capital market in terms of the demand for and supply of securities.

(ii) Reduction of the costs of intermediation and floating of new issues;

(iii) Encouraging the establishment and development of a secondary market for shares and bonds.

(iv) Strong legal and institutional framework for capital market operation and security ownership

(v) Adoption of measures and strategies to strengthen and enhance official supervision of trading in the securities market so as to make them attractive assets.

5.5 Suggestion for Further Research

Further research should use threshold analysis to examine the limit at which the stock market and bond market complement each other before moving in opposite directions.

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APPENDIX I

Dependent Variable: SR

Method: Least Squares

Date: 11/30/22 Time: 16:15

Sample: 1999 2021

Included observations: 22

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.032185	0.046218	0.696374	0.4621
GBP	-0.082618	0.036220	-2.281004	0.0306
GBR	-0.056770	0.026121	-2.173347	0.0320
GBL	0.092186	0.067203	1.371040	0.1807
RGDP	0.421752	0.158042	2.668607	0.0081

R-squared	0.870046	Mean dependent var	221.1684
Adjusted R-squared	0.841033	S.D. dependent var	212.3453
S.E. of regression	298.7692	Akaike info criterion	11.77802
Sum squared Resid	10.18341	Schwarz criterion	11.03684
Log likelihood	21.23210	F-statistic	17..20532
Durbin-Watson stat	1.680214	Prob(F-statistic)	0.000000

APPENDIX II

DATA

YEAR	ASI (N'M)	SR (%)	GBR (%)	GBL (%)	RGDP (%)
1999	5,266.4	3.42	9.28	19.69	4.89
2000	8,111.0	4.02	11.15	19.17	4.72
2001	10,963.1	2.72	11.70	26.86	4.63
2002	12,137.7	3.36	12.79	21.82	9.57
2003	20,128.9	3.42	12.89	23.01	6.58
2004	23,844.5	3.28	13.02	18.68	6.51
2005	24,085.8	3.60	13.72	18.10	6.03
2006	33,189.3	6.18	14.30	20.47	6.45
2007	57,990.2	5.70	15.35	24.88	5.98
2008	31,450.8	6.12	12.15	33.05	6.96
2009	20,827.2	4.05	11.52	38.14	7.98
2010	24,770.5	1.36	12.25	37.78	7.43
2011	20,730.6	2.42	12.50	22.98	7.4
2012	21,652.42	1.22	6.78	35.46	6.5
2013	23,506.19	2.28	10.25	32.77	7.4
2014	22,705.20	1.78	9.50	34.16	6.2
2015	23,198.42	2.80	9.50	38.21	2.8
2016	24,230.65	2.26	10.50	36.40	1.8
2017	25,870.52	2.74	11.15	35.32	-1.58
2018	22,231.30	2.64	10.50	29.87	2.25
2019	21,985.22	2.32	11.50	28.70	1.83
2020	20,165.20	6.10	11.50	27.62	-1.25
2021	24,168.52	3.05	12.15	25.92	0.24