CAPITAL MARKET IMPACT ON ECONOMIC GROWTH IN NIGERIA

BY

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DECLARATION

I, **CHINYE SAMUEL,** do hereby declare that this project work is entirely my own work and composition. The work contained in this project has not been submitted in candidature of any degree and is not concurrently being submitted for any other degree.

Acknowledgements have been accorded to whom it is due with respect to all citations and references used in the course of this project.

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CHINYE SAMUEL
(PROJECT STUDENT)

DATE: __________________

CERTIFICATION

We the undersigned persons certify that this research project work titled "Capital Market Impact on Economic Growth in Nigeria" carried out Chinye Samuel with matriculation number SSC1809407 of the Department of Economics and Statistics, Faculty of Social Sciences, University of Benin, Benin City is approved and considered adequate in the scope and content for partial fulfillment of the requirement for the award of Bachelor of science (B.Sc.) Degree in Economics and Statistics.

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Dr. S.O Igbinedion
(Project Coordinator)

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Dr. S.O Igbinedion
(Ag. Head of Department)

DEDICATION

This project work is dedicated to God Almighty for His infinite mercy towards me, for by His grace this project work became a reality.

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ABSTRACT

This research aims to examine the influence of the capital market on the economic growth in Nigeria. The establishment of the Capital market aims to attain specified objectives, including the mobilisation of financial resources on a national level and the acquisition of necessary foreign capital to accelerate economic growth. This study employs a time-series research design, utilising secondary data obtained from www.worldbank.org [1990-2020]. The analysis is conducted using an auto-regressive distributed lag (ARDL) model. The findings indicate that the capital market does not exert a favourable and statistically significant influence on the economic growth of the country. Additionally, it unveiled the constrained role of the market in fostering the growth of the industrial sector.

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CHAPTER ONE

INTRODUCTION

1.1 Background Of The Study

Capital markets plays an important role in the economic development of any country. It is a key component of the financial system, facilitating the flow of funds from savers to investors and helping to mobilize savings for investment in the real economy Chen et al. (2021).

Capital markets provide companies with a platform to raise long-term funding for projects and expansion plans, and also provide opportunities for investors to earn a return on their investment Block et al. (2021)

Nigeria's capital market has undergone significant transformations in the past few decades. From a relatively underdeveloped state in the 1980s and 1990s, it has grown to become the largest in sub-Saharan Africa, with a market capitalization of over $50 billion as of 2021 (Abina and Maria 2019; Raubenheimer, 2019; Ozo and Arun 2019). The Nigerian Stock Exchange (NSE) is the primary platform for trading equities, bonds, and other financial instruments in the country (Oyerinde, 2019).

Despite this growth, the contribution of the capital market to the Nigerian economy's development is still limited. The Nigerian economy remains largely dependent on oil exports, with little diversification into other sectors, and access to finance remains a significant challenge for small and medium-sized enterprises (SMEs) (Ikon and Itua 2019).

Therefore, understanding the impact of the capital market on the Nigerian economy's development is essential. Studies by Chidi-Okeke et al. (2023) have shown that a well-developed capital market can lead to increased savings and investment, improved access to long-term financing, and enhanced capital allocation efficiency. Additionally, a vibrant capital market can attract foreign investment, create employment opportunities, and stimulate economic growth (Ezeanyeji and Maureen, 2019; Saliya, 2022; Dabwor et al., 2022).

Acha and Akpan (2019) has shown that the Nigerian capital market's impact on economic development is limited due to various factors. Some of the key challenges facing the Nigerian capital market include low liquidity, weak regulatory framework, inadequate investor education, and lack of market depth. Additionally, the dominance of oil exports and the limited diversification of the Nigerian economy have hindered the growth and development of the capital market.

Despite these challenges, there are still opportunities for the Nigerian capital market to contribute significantly to economic development. For example, the Nigerian government has implemented several policies aimed at promoting the capital market, such as tax incentives for investors, the introduction of new financial instruments, and the establishment of a credit bureau to enhance credit risk assessment. Additionally, the emergence of fintech companies has provided new opportunities for the capital market to reach a broader range of investors and increase market liquidity.

Therefore, this study will provide an analysis of the Nigerian capital market's current state, identify the key factors that have hindered its growth and development, and explore the potential opportunities for the market to contribute to the Nigerian economy's development.

In conclusion, the study of the impact of the capital market on economic development in Nigeria is essential for policymakers, investors, and other stakeholders in the Nigerian economy. By understanding the challenges and opportunities facing the capital market, policymakers can implement policies and regulations that will promote its.

1.2 Statement Of The Problem

Capital markets are critical components of any economy, as they provide a platform for companies and governments to raise long-term funds for investment in various sectors of the economy (Bhuiyan et al., 2020). In Nigeria, despite the presence of a relatively well-established capital market, there is a concern about the impact of the capital market on the overall economic development of the country. The following are some of the key problems related to the capital market's impact on economic development in Nigeria:

Low level of capital market activity: The Nigerian capital market is relatively underdeveloped, with low levels of trading activity and limited participation by retail investors. This limited activity has a significant impact on the economy's overall development, as it limits the amount of capital available for investment in critical sectors of the economy.

Lack of diversity in the capital market: The Nigerian capital market is largely dominated by a few large companies, with limited participation by smaller companies

(Soumaré et al., 2021). This lack of diversity limits the overall impact of the capital market on economic development, as it limits the amount of investment in key sectors such as agriculture, manufacturing, and small and medium-sized enterprises (SMEs).

Weak regulatory environment: The regulatory environment in Nigeria's capital market is weak, with limited oversight and enforcement of regulations. This has led to instances of fraud and other irregularities, which have undermined investor confidence in the market and limited the amount of capital available for investment.

Limited participation by foreign investors: Despite efforts to attract foreign investment, the Nigerian capital market has limited participation by foreign investors. This limits the amount of capital available for investment in the economy and reduces the impact of the capital market on economic development.

Against this background, the current study seeks to examine the impact of stock market developments on Nigeria's economic growth. The study uses three proxies of stock market performance: stock market capitalization, stock trading volume, and stock exchange turnover, all expressed as a percentage of GDP. However, the economic growth rate is approximated by the real GDP growth rate.

Overall, these issues demonstrate the need for reforms aimed at improving the efficiency, diversity, and regulatory environment of Nigeria's capital market to increase its impact on economic development

1.3 Research Questions

This research was guided by the following questions:

1. What is the performance of the capital market in relations to economic growth in Nigeria.
2. To what extent has the stock value traded ratio to GDP affected economic growth in Nigeria.
3. How could the capital market through it crucial role stimulate economic growth in Nigeria.

1.4 Objectives Of The Study

The broad objective of the study is to evaluate the effect of capital market impact on economic growth in Nigeria.

The specific objectives are:

1. To ascertain the effect of stock market capitalization ratio to gross domestic product on economic growth in Nigeria.
2. To evaluate the effect of stock value traded ratio to gross domestic product on economic growth in the Nigeria.
3. To examine the effect of turnover ratio of the country's stock markets on economic growth.
4. To make recommendations as to how the operations of the market could be improved to boost economic growth and development in Nigeria.

1.5 Hypotheses Of The Study

$H_0 1$: Capital market has no positive impact on economic growth in Nigeria

$H_0 2$: The ratio of traded equity value to GDP in Nigeria has no significant impact on economic growth.

H_03: Stock market turnover rates in Nigeria do not significantly affect economic growth.

1.6 Significance Of The Study

The significance of studying the impact of the capital market on economic growth in Nigeria cannot be overstated. This is because the capital market is a critical component of any economy, and its role in fostering economic growth cannot be overemphasized.

Firstly, this study on the impact of the capital market on economic growth in Nigeria will help to shed light on the contribution of the capital market to the country's economic development. The capital market plays a crucial role in providing long-term finance for businesses, which in turn spurs economic growth by facilitating investments in new projects and expansion existing ones.

Secondly, a study on the impact of the capital market on economic growth in Nigeria will help to identify the challenges and bottlenecks that hinder the development of the capital market. These challenges may include regulatory issues, lack of investor confidence, inadequate infrastructure, and low financial literacy levels. By identifying these challenges, policymakers and stakeholders can devise strategies to address them, thus creating an enabling environment for the growth and development of the capital market.

Lastly, a study on the impact of the capital market on economic growth in Nigeria will help to inform investors and market participants about the potential benefits and risks of investing in the capital market. This will enable them to make informed decisions regarding their investment choices, which will ultimately contribute to the growth and development of the capital market and the overall economy.

1.7 Scope Of The Study

The study on the effect of capital market on economic growth of Nigeria is aimed at investigating the relationship between capital market and economic growth in Nigeria and how other various factors such as government policies, foreign investment and other macro economic variables impact on this relationship.

The study makes use of the following selected variables; gross domestic product [GDP], market capitalization ratio to GDP, stock traded value to GDP and turnover ratio.

The reason for studying this selected variable is that they reflect the size and liquidity position of the capital markets. The study time frame covers from the period from 1990 - 2020.

1.8 Limitations Of The Study

The study may face certain limitations, such as:

Data availability: The study may face limitations in terms of data availability, particularly in obtaining accurate and reliable data on the development of the capital market and economic growth indicators in Nigeria.

Timeframe: The study may be limited by its timeframe, as economic growth and capital market development can be influenced by various factors that may take years or decades to materialize.

Causality: The study may face limitations in establishing causality between capital market development and economic growth, as there may be other factors that contribute to economic growth.

Sampling bias: The study may face limitations in terms of sampling bias, particularly if the sample size is not representative of the Nigerian economy.

Political instability: The study may be limited by political instability in Nigeria, which can impact the reliability of the data and the generalizability of the study findings.

Limited generalizability: The study's findings may not be generalizable to other countries or regions with different institutional contexts, regulatory frameworks, and economic structures. Therefore, the study's conclusions should be interpreted in the context of the Nigerian capital market and economy, and caution should be exercised when extrapolating the results to other contexts.

Endogeneity issues: The study may face endogeneity issues, where the development of the capital market and economic growth may be mutually determined, making it challenging to disentangle the direction of causality.

To address these limitations, the study may use appropriate statistical methods, ensure data accuracy and reliability, and consider alternative explanations for the findings. The study may also acknowledge these limitations in the interpretation of the results and make recommendations for future research.

1.9 Organization Of The Study

The main theme of the research is given in chapter one which is the introduction part of the study. The statement of the problem, objectives of the study, research questions and hypotheses, significance of the study, scope and delimitation of the study are included.

The impact of the capital market on the economic growth of Nigeria is reviewed in chapter two. Chapter three includes sources of data, method of data analysis and model specification. The data analysis in chapter four is followed by the summary, recommendations and conclusion in chapter five.

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Capital Market

According to Wikipedia, capital market is a financial market in which long-term debt (over a year) or equity-backed securities are bought and sold, in contrast to a money market where short-term debt is bought and sold. Capital markets channel the wealth of savers to those who can put it to long-term productive use, such as companies or governments making long-term investments (Siegel, 2021; Shafaq, 2023; Idedekumoh, 2023). Mishkin (2019) described this as a forum where long-term surplus funds are made available to deficit economic units. A capital market is an association of financial institutions established to issue medium- and long-term loans (Godke Veiga and McCahery 2019). It is a market for the mobilization and use of government securities, corporate bonds and long-term funds for development - the long term end of the financial system (Stoian, 2019).

Rilwanu (2020) argue that capital markets are primarily designed to provide opportunities to efficiently mobilize available funds from surplus economic units to deficit economic units for long-term investment purposes. It serves as the link between the deficit and surplus sectors in any economy. Funders are primarily individuals and corporations as the state rarely finances the market. Conversely, the users of funds mainly consist of corporations and governments.

The vital roles played by the capital market in the achievement of economic growth thereby enables government, industries, corporate bodies to raise long-term capital for the purpose of financing new projects, expanding and modernizing industrial concerns (Ezu, 2023). A unique benefit of the capital market to corporate entities is the provision of long-term, non-debt financial capital. Capital market is a broad term that includes both primary and secondary markets, where new securities are issued and traded respectively.

The primary market is where companies issue new securities, such as stocks and bonds, to raise funds. This can be done through an initial public offering (IPO), where a company goes public for the first time and sells shares to the public, or through a secondary offering, where a company issues more shares to raise additional funds.

The secondary market is where previously issued securities, such as stocks and bonds, are bought and sold among investors. This is where the stock market and bond market operate. In the secondary market, investors can buy and sell securities with each other, rather than with the issuing company.

Capital markets are important because they provide opportunities for businesses and governments to raise capital to finance their activities, projects and investments. By issuing securities, it can attract investment from a wide range of investors including individuals, institutional investors and other corporations.

For investors, the capital market provides opportunities to invest in a range of securities and earn returns on their investments (Widagdo et al., 2020; Siegel,2021). Investors can choose to invest in stocks or bonds of companies with different levels of risk and return potential, depending on their investment goals and risk appetite. The capital market also plays a role in allocating capital efficiently, as investors can choose to invest in companies with the best growth potential and returns. This helps to support economic growth and development, as companies with access to capital can invest in research and development, new products and services, and other initiatives that can drive growth and create jobs. In addition to stocks and bonds, the capital market also includes other financial instruments such as options, futures, and derivatives. These products are used by investors and companies to hedge risk or speculate on market movements. In general, capital markets are an essential component of the global financial system, facilitating the movement of capital between investors and businesses and supporting economic growth and development

2.1.2 Economic Growth

Economic growth is the increase in production and consumption of goods and services within an economy over a period of timen (Otero, 2021). This is usually measured by a country's Gross Domestic Product (GDP) growth rate. GDP growth rate represents the total value of all finished goods and services produced within a country's borders over a period of time.

Economic growth is a basic indicator of a country's overall economic health and development (Myovella et al., 2020). It means an expansion of the economy's productive capacity, resulting in higher levels of output, income and employment. This reflects an improvement in the living standards and economic well-being of the population. Several factors contribute to economic growth, including technological progress, increased productivity, investment in physical and human capital, innovation, favorable government policies, and access to resources and markets. These factors increase production, efficiency and competitiveness, leading to economic expansion.

Economic growth has many positive effects on society. It creates employment opportunities, reduces poverty and improves overall quality of life. This allows the government to earn more through taxes, which can be used to invest in public infrastructure, health care, education and social welfare programs. Economic growth also fosters entrepreneurship, innovation and trade, leading to diversification, globalization and economic integration.

However, it is important to aim for sustainable and inclusive economic growth. This means considering the long-term impact of economic activity on the environment, addressing income inequalities and ensuring a fair distribution of wealth and opportunities. Sustainable economic growth aims to balance economic progress with social well-being and environmental sustainability to build prosperous and resilient societies for future generations.

2.1.3 Capital Market And Economic Growth

In principle, capital (stock) markets are expected to accelerate economic growth by stimulating domestic savings and increasing the quantity and quality of investment. The market is expected to encourage savings by providing individuals with additional financial instruments that may better suit their risk appetite and liquidity needs. Better mobilization of savings can increase savings rates. Capital markets also provide opportunities for growing businesses to raise capital at a lower cost (Carp et al., 2019). In addition, companies in countries with developed stock markets are less reliant on bank financing, reducing the risk of a credit crunch. The capital market therefore is able to positively influence economic growth through encouraging savings among individuals and providing avenues for firm financing (Ubesie, 2020). Capital market offers access to a variety of financial instruments that enable economic agents to pool, price and exchange. Through assets with attractive yields liquidity and risk characteristics, it encourages savings in financial form. This is very essential for government and other institutions in need of long term funds and for suppliers of long term funds. Companies can finance their operation by raising funds through issuing equity (ownership) or debenture/bond borrowed as securities. Equities have a perpetual life, whereas debentures/bonds are structured to mature over a medium to long term, typically ranging from five to twenty-five years (Akujinma, 2023).

Based on the performance of capital market in accelerating economic growth, government of most nations tends to have keen interest in its performance. The concern is for sustained confidence in the market and for a strong investor's protection arrangement. Thus it is argued that for capital market to contribute or impact on the economic growth in Nigeria, it must operate efficiently. Most often, where the market operate efficiently, confidence will be generated in the minds of the public and investors will be willing to part with hard earned funds and invest them in securities with the hope that in future they will recoup their investment.(Ewah et al, 2009).

2.1.4 Overview Of The Nigeria Capital Market

The capital marketplace is cornerstone of each economic device because it offers the finances wanted 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 (Shafaq, 2023).

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 (Abina, and Maria 2019).

The Nigeria capital market was established for the following reasons below.

i. To overcome difficulties of selling government stock.
ii. To provide local opportunities and lending for long term purpose.
iii. To enable authorities mobilized long term capital for economic growth and development.
iv. To enable the foreign business the chance of offering their shares to interested Nigerians to invest and participate in the ownership of these foreign business.

In view of the above the major participants in capital market are.

- Government

- Quoted Companies (listed companies)
- Stock Brokers
- Central Bank of Nigeria (C.B.N)
- Banking and non Banking Financial Institutions
- Nigerian Stock Exchange
- Nigerian Securities and Exchange Commission

Functions of the capital market

a. The promotion of rapid capital formation.

b. It is machinery for mobilizing long-term financial resources for industrial development.

c. The provision of an alternative source of fund other than taxation for government.

d. The mobilization of savings from numerous economic units for growth and development.

e. The provision of liquidity for investors.

f. The broadening of the ownership base of assets and the creation of a healthy private sector.

g. It is an avenue for effecting payment of debts

h. The creation of a built in operational and allocation efficiency within the financial system to ensure that resources are optimally utilized at relatively little cost.

2.1.5 The Nigerian Security and Exchange Commission

The Nigerian security and exchange commission (NSEC) is the apex institution for the regulation and monitoring of the Nigeria capital market (Ndudi et al., 2020). The commission was established under the security and exchange commission decree 1979, operating retrospectively from 1st April 1978. Prior to the SEC, two bodies had in succession been responsible for the monitoring of capital market activities in Nigeria. The first was capital issues committee, which operated between 1962 and 1972. It could not be seen as the superintendent of the capital market because its functions were more or less advisory without the force of instruction even through its functions included the coordination of capital market activities. The next body was the capital market issues commission (CIC) which came into being in March 1973. The C.I.C, unlike its predecessor, had full powers to determine the price, timing and volume of security to be issued. Despite this wider power, the CIC could not be seen as the apex of capital market because it concerned itself with public companies alone and its activities did not cover the stock exchange and government securities. The enabling Act of the Securities and Exchange Commission specifies its overriding objectives as investors' protection and development while its functions were divided into two regulatory and development.

The functions of the commission are extensively spelt out in Nigeria Securities and Exchange Commission Decree (Decree No 29) of 1983 and the Nigerian Enterprises Promotion Decree 1990. Under Section (6) subsection (9) to (10), the commission is charged with the following duties and functions.

i. Determining the amount of price and time when securities of companies are to be sold to the public whether through offer for sale or subscription.

ii. Registering all securities proposed to be offered for sale to or for subscription by the public.

iii. Maintaining surveillance over the securities market to ensure orderly, fair and equitable dealing in securities.

iv. Protecting the integrity of the security market against any abuses arising from the practice of insider trading.

v. Acting as regulatory apex organization for the Nigerian capital market including the Nigerian Stock Exchange and its branches to which it would be at liberty to delegate power.

vi. Registering Stock Exchange or their branches, registers investment advisers, securities dealers and their agents and controlling and supervising their activities with a view to maintaining proper standards of conduct and professionalism in the securities business.

vii. Undertaking such other activities as are necessary or expedient for giving fall effect to the provision of this decree.

2.1.6 The Nigerian Stock Exchange

As one of the components of the capital market, the stock exchange is a private non-profit limited liability organization. It was taken up with the inspiration and support of business people and the federal government. But it belongs to about 300 members. Members include financial institutions, stockbrokers and individual conscientious Nigerians who have contributed to the development of the stock market and Nigerian economy. The Nigerian Stock Exchange began with the merger of what was then Lagos Stock Exchange in 1960 (Eze et al., 2020). Trading on the stock exchange began in 1961 with the passage of the Lagos Stock Exchange Act 1961, a self-regulating organization was subsequently reorganized and renamed Nigerian Stock Exchange 197 based on the report and recommendation of the Pius Okigbo Financial System Review Commission. The stock exchange is therefore a capital market institution that provides trading platforms on which all transaction participants work every working day (Soumaré, et al., 2021). The exchange currently has nine (9) branches and all branches function primarily as a trading floors.

Functions of Nigerian Stock Exchange

i. To provide opportunities for raising new capital.

ii. To promote increasing participation by the public in the private sector of the economy.

iii. To provide appropriate machinery to facilitate further offerings of stocks and shares to the public.

iv. To provide a central meeting place for members to buy and sell existing stocks and shares and for granting quotation to new ones.

v. To reduce the risk of liquidity by facilitating the purchasing and sale of securities.(Al-faki, 2007).

2.1.7 The Stock Market Size

The Concept Of Stock Market Capitalization

A common index often used as a measure of stock market size is market capitalization. Market capitalization corresponds to the total value of all listed stocks. In terms of economic importance, market size is believed to be positively correlated with the ability to mobilize capital and spread risk. Market capitalization is the total amount of shares tradable on the capital markets (Omoke, 2010). Indicates market depth or market size. A large market size increases GDP and leads to economic growth, while a small market size hinders economic growth and adversely affects GDP (Osinubi, 2003). The concept of market capitalization is widely used in stock market analysis. This means measuring the total market value considering the total value of stocks (Ezirim et al., 2009). It is an estimate of market value based on perceived futures and their economic and financial conditions (Osinubi et al., 2003). Table 2 shows market capitalization (MCAP) for Nigeria and South Africa as recorded by ASEA (2013). Market capitalization relative to GDP is used as a proxy for deal size. Levine and Zervos (1996) show that an increase in market capitalization, measured either as a ratio of market value to GDP or as the number of listed firms, can improve an economy's ability to mobilize capital and spread risk.

Market Capitalization Ratio to Gross Domestic Products

As an investment ratio, market capitalization to GDP ratio is used to determine the extent to which a particular market is undervalued or overvalued. It is calculated by dividing a country's market capitalization by its market GDP and multiplying by 100 (Investopedia, 2013). The result of this calculation is the share of the country's

GDP accounted for by stock exchange trading. Markets with a value above 100% are usually declared as overvalued markets, and markets with values around 50% are interpreted as undervalued markets (Investopedia, 2013). capitalized GDP ratio) promotes economic growth. The essence of the market capitalization ratio is that the market size is positively correlated

with the ability to mobilize capital and spread risk in an economy (Demirguc-Kunt and Levine, 1995; Alajekwe & Achugbu, 2012).

2.1.8 The Concept of Liquidity

Liquidity is used to refer to the ability of investors to buy and sell securities easily (Tripathi and Dixit 2020). It is an important indicator of stock market development because it signifies how the market helped in improving the allocation of capital and thus enhancing the prospects of long-term economic growth. This is possible through the ability of the investors to quickly and cheaply alter their portfolio thereby reducing the riskness of their investment and facilitating investments in projects that are more profitable though with a long gestation period (Schwartz, 2021; Berglund, 2020).

Total Stock Value Traded

It reports on the total financial assets bought and sold in the market. It shows whether the market is liquid or not. This indicator shows the value of stocks traded in a year. It is determined by taking the product of the total number of shares sold during a given period and the market value of the shares (Khan et al., 2005; Shah, 2019). Value traded is a strong indicator of the liquidity of a stock market. It is used to measure the stock market transactions relative to the stock market size. If the value of stock traded in the stock market is high, it indicates a highly liquid market. Total value traded ratio measures the organized trading of equities as a share of the national output. Table 4 depicts the value of stock traded in Nigerian and South African stock markets (2006-2012). **Turnover Ratio**

This is used as a benchmark to rank market liquidity and transaction costs. This ratio is equal to the total value of shares traded on the stock exchange divided by the market capitalization. It is also a measure of the value of securities transactions compared to the size of the stock market. The stock market turnover ratio is simply a measure of the frequency of securities trading (Harjoto et al., 2021). It is used to show how quickly actions are converted into income. The low turnover ratio is an indication to potential investors that the stock price is not affected by the sudden high stock buying due to the abundance of stock. A high turnover ratio suggests to investors that increased purchases will have a huge impact on the stock due to its limited availability (Van Kervel, 2019). While a higher ratio implies higher demand for the stock, it also indicates higher brokerage fees or transaction costs that, if left unchecked, can minimize returns (Investopedia, 2013). . As a result, potential investors tend to look at stocks with low turnover. The turnover rate of a stock market is the result of the value traded divided by the market capitalization.

2.1.9 The Concept of Gross Domestic Product (GDP)

GDP represents the total value of goods and services produced in a country over a period of one year (Whitton et al, 2019). It is also the market value of all officially recognized final goods and services supplied by a country in a year (Islam, 2019). It is the market value of all final goods and services produced in a country in a year (Jakovljevic et al., 2020). In another sense, gross domestic product is the monetary value of all finished goods and services produced within the borders of a country during a given period. Although GDP is usually calculated on an annual basis, it includes all private and public consumption, government spending, investment, and imports by exporters that take place within a defined territory (Aum, 2021). It is represented mathematically as follows:

GDP = C + G + I + NX

Where: C = is equal to all private consumption

G = the sum of government spending

I = all the country"s business spending on capital.

NX = the nation"s total net exports, calculated as total export minus total imports

(NX = Exports – Imports).

GDP was used in this study as a proxy for economic growth in Nigeria and South Africa. Its expansion or increase signifies growth in the economy while its decrease is a sign of economic stagnation.

2.1.10 Conceptual Framework

The conceptual framework for this study could include the following components:

Dependent Variable: Economic growth

Independent Variable: Capital Market

- Stock Market
- Bond Market

Mediating Variables

- Investor Confidence
- Capital Mobilization
- Capital Allocation Efficiency

Control Variables.

- Government Policies
- Macroeconomic Stability
- Technological Advancement

2.2 Theoretical Review

- The theoretical framework for this study is based on
- The Theory of Efficient Market
- Financial Intermediation Theory
- Capital Market Liberalization Theory

2.2.1 The Efficient Market Hypothesis (EMH)

The theoretical framework for linking capital markets and economic growth is based on the Efficient Market Hypothesis (EMH) developed by Fama in 1965. According to the efficient market hypothesis, financial markets are efficient or the prices of assets traded already reflect all known information and are therefore unbiased as they reflect the collective beliefs of all investors about future prospects. The previous test of the Efficient Market Hypothesis (EMH) was based on the long-term dependence on stock returns. This shows that past data has been helpful in improving the accuracy of forecasts. This statement tends to refute the Efficient Market Hypothesis (EMH) in most developing countries. Stock prices tend to have a long memory or long-term dependency due to the narrowness of their market resulting from the immaturity of regulatory and institutional arrangements. They found that where the market is high and unduly speculative, investors will not part with their funds for fear of financial loss. The implication is that companies cannot raise additional capital to expand. Therefore, suffice it to say that capital market efficiency is a necessary condition for growth in Nigeria (Aum et al., 2021).

2.2.2 Financial Intermediation Theory

Another theoretical framework for explaining capital market impact on economic growth is Financial Intermediation Theory. Financial intermediation theory is an economic theory that focuses on the roles and functions of financial intermediaries in the financial system (Diamond, 2023). A financial intermediary is an institution or firm that acts as an intermediary between savers and borrowers, channeling funds from the profitable sector (savers) to the deficit sector (borrowers). This theory examines how financial intermediaries facilitate the efficient allocation of funds in the economy.

2.2.3 Capital Market Liberalization Theory

Another theory for linking capital market and economic growth is the Capital Market

Liberalization theory. Capital market liberalization theory is an economic theory that advocates removing restrictions and barriers in capital markets to promote greater openness and efficiency (İlhan, 2019; Idrees et al., 2022). This theory suggests that the liberalization of capital markets will bring a range of benefits, including increased investment, improved resource allocation, improved financial market development and economic growth by reducing restrictions and restrictions on capital flows, pointing out that it is possible.

2.3 Empirical Literature Review

The stock market is a veritable vehicle for mobilizing and allocating savings among competing destinations , which is critical and necessary for an economy's growth and efficiency. Therefore, determining the economy's overall growth depends on how effectively the stock market performs its distributional functions (García-Ruiz et al., 2023).

2.3.1 Empirical Literature Review on Nigerian Capital Market

Adam and Sunny (2005) examined the role of the stock market in Nigeria's economic growth using the Granger causality test and regression analysis. The study found a one-way causal relationship between GDP growth and market capitalization and a two-way causal relationship between GDP growth and market turnover. They also observed a positive and significant relationship between GDP growth and turnover rates. According to the study, the government should promote the development of the capital market as it has a positive relationship with economic growth.

Idowu, Abiola, and Babatude (2012) investigated the impact of financial reforms on the development of Nigeria's capital markets from 1986 to 2010 and used the ordinary least squares (OLS) method to develop an empirical model of the study. was estimated. The impact of capital market reforms introduced in 1995 on capital market development was assessed using the Chow Breaking Point Test. Their results show that the 1995 financial reforms had a significant impact on the development of Nigeria's capital markets.

Oke (2012) examined the effect of the Nigerian capital market operation on the development of the Nigeria oil and gas sector. To achieve this, two models were formulated and data for the period 1999-2009 were collated while the co-integration and Error Correction model were employed for analysis. Their findings indicate that there exists a long run equilibrium relationship among the variables in both models.

2.3.2 Empirical Literature Review on South African Capital Market

Nyasha and Odhiambo (2015) investigate the dynamic causal relationship between bank-based financial development, stock market development and economic growth in South Africa – during the period 1980–2012. The study includes savings and investment as intermittent variables – thereby creating a multivariate Granger- causality model. Using the newly developed autoregressive distributed lag (ARDL)- bounds testing approach, the empirical results of this study reveal that there is a distinct short- and long-run unidirectional causal flow from stock market development to economic growth in South Africa. The results also indicate that there is a unidirectional causal flow from bank-based financial development to stock market development in the short run. The study, however, fails to find any causality between bank-based financial development and economic growth. The study, therefore, concludes that the development of the real sector in South Africa is largely driven by stock market development.

Mohamed (2015) attempted to answer the question of whether the stock market plays a significant positive role in influencing the rate of economic growth and used data for 1990–2012. He also used dynamic group research to assess the relative impact of market capitalization on economic growth in Africa. He found that there is a positive significant correlation between market capitalization and economic growth. He therefore urged African countries to explore the stock market as a potential vehicle to boost economic growth.

2.3.3 Empirical Literature Review on some Capital Markets around the World

Nieuwerburgh et al (2006) examined the long-term relationship between capital market developments (shares) and economic growth in Belgium. Their result shows that the market is driving economic growth in Belgium.

Mishra, et al (2010) examined the impact of capital market efficiency on economic growth of India using the time series data on market capitalization, total market turnover and stock price index over the period spanning from the first quarter of 1991 to the first quarter of 2010. Their study reveals that there is a linkage between capital market efficiency and economic growth in India. This linkage is established through high rate of market capitalization and total market turnover. The large size of capital market as measured by greater market capitalization is positively correlated with the ability to mobilize capital and diversify risk on an economy wide basis. The increasing trend of market capitalization in India would certainly bring capital market efficiency and thereby contribute to the economic growth of the country.

Demetriades et al (2001) used time series data from five developed countries to examine the relationship between the stock market and economic growth while accounting for other effects of the banking system and stock market volatility. Their results reinforce the view that while banks and the stock market can boost economic growth, the impact of the bank is greater. They suggested that the stock market's contribution to economic growth may have been exaggerated by studies using cross-country regressions.

2.4 Gaps In Literature

By evaluating the various related literatures to this study, it was discovered that a lot of emphasis have been made on the impact of capital market on economic growth, the challenges faced by the capital market and government policies and how they influence the capital market operationswith little or no reference to the actual relationship between the capital market and economic growth. Study shows that most of the related literatures that discuss the relationship between the capital market and economic growth have not been able to encapsulate the recent development in Nigeria.

Therefore, this study aims to bring the latest on the impact of the capital market on economic growth in Nigeria. The study also includes other control variables like technological advancement, which tries to inquire into the impact of the capital market on economic growth in Nigeria.

CHAPTER THREE

METHODOLOGY

3.1 Theoretical Framework

The purpose of this research is to determine the relationship between the capital market and economic growth. In doing so, the study will be centered on the Efficient Market Hypothesis (EMH), as this is base for a relationship between capital market and economic growth. The Efficient Market Hypothesis (EMH) is a theory in finance that suggests that financial markets are efficient in processing and reflecting all available information (Ball, 2009; Clarke et al., 2001). According to the EMH, it is not possible for an investor to consistently achieve above-average returns by trading based on publicly available information because the prices of financial assets already incorporate all relevant information.

The efficient market hypothesis has important implications for investment strategy and portfolio management (Sewell, 2011). This suggests that investors cannot consistently outperform the market by trading solely on public information. As a result, rather than actively picking stocks, some investors choose passive investment strategies, such as index funds and exchange-traded funds (ETFs), that aim to track the performance of indices across the market.

3.2 Research Design

A post hoc study design was used in this study. This is based on the assumption that the analysis uses previous information (data) on the Nigerian stock exchange and Gross Domestic Product. According to Robinson (1952), "A post hoc design is a systematic empirical study in which the inudependent variables are directly manipulated because they have already occurred or are inherently unmanipulable." That is." From sources that the researcher did not have the authority to manipulate. Therefore, the data were collected and used as is. The purpose of this study is to include the macroeconomic variables of the capital markets and the factors that may affect them. The variables selected reflect the main activities of the capital markets, including: Gross domestic product (GDPGR) growth rate. Used as the dependent and surrogate variable for economic growth. Independent variables include the ratio of market capitalization to GDP (MKTCR). Stock to GDP ratio (SVTR) and sales ratio (TUNR). This research spans within the period of thirty-one years (1990-2020).

3.3 Method Of Evaluation

In this section, the study proceeds with a comprehensive evaluation of the results.

The evaluation made is based on three criteria.

- Economic criteria
- Statistical criteria,
- Econometric criteria.

Economic Criteria:

This evaluation consists in determining whether the parameter estimates are theoretically reasonable and satisfactory. The sign and magnitude of the parameter estimates are checked to determine if they match the expectations of the criterion. Economic criteria help researchers recognize deviations from practical requirements.

Statistical Criteria:

R^2 (primary test)

It measures or describes the overall variation in the dependent variable calculated by the model. Use t-test and f-test.

- t-test: This is used to test the statistical significance of individual estimated parameters. For this study, the t-statistic is chosen because the population variance is known and the sample is less than 30.

- F-test: The F-test tests whether the combined effect of the explanatory variables on the dependent variable is statistically significant.

Econometrics Criteria:

It is used to assess whether the assumptions of the econometric method used are satisfactory. The tests performed according to this criterion are:

Autocorrelation test: This test employs the traditional "Durbin Watson test" to check for presence and correlation.

- **Multicollinearity test:** This test uses the correlation matrix test to check the degree of multicollinearity between variables.
- **Normality Test:** This test is performed to see if an error term exists. Follows a normal distribution. The normality test used in this study is the Jarque-Bora (JB) statistic, which follows a chi-square distribution with 2 degrees of freedom.
- **Heteroscedasticity Test:** This test was performed to determine the degree of distribution of the error term (to determine if the variance is constant). This test was performed using White's heteroscedasticity test (no cross terms). Follows a chi-square distribution with degrees of freedom equal to the number of regressions without the constant term.

3.4 Model Specification

The model specifies that economic growth [proxy by Gross Domestic Product (GDP)] is significantly influenced by the capital market indices (market capitalization ratio, stock value traded ratio and turnover ratio) is formulated as follows

GDPGR= f (MKTCR, SVTR, TUNR)

GDPGR= β0+ β1MKTCR+ β2SVTR+ β3TUNR+U

Where,

MKTCR is the market capitalization ratio. The study uses market capitalization as a percentage of **GDP (MKCR)** as an investment ratio to determine how much a particular market is undervalued or overvalued. This is calculated by dividing the country's market capitalization by the market GDP and multiplying by 100 (Investopedia, 2013). The result of this calculation is the percentage of the country's GDP that is traded on the stock exchange. Markets with a value of over 100% are usually declared as overvalued markets, while markets with a value of around 50% are interpreted as undervalued markets (Investopedia, 2013). It is used in research as an indicator of the size of the stock market.

SVTR stands for stock trading value ratio. This indicator measures the liquidity of the capital markets. It is expressed as total stock traded as a percentage of GDP and indicates whether the market is liquid. It also shows how quickly investors can convert their financial assets into cash. Investors are encouraged to invest more when they are confident that they can convert their financial assets into cash at any time. This approximates capital market liquidity.

TUNR is the turn rate. This is simply an indicator of how often a stock trades on an exchange. Shows how quickly inventory turns into sales. A low turnover rate indicates to potential investors that the stock is so plentiful that the stock price will not be affected by sudden large purchases. A high turnover rate suggests to investors that increased purchases will have a greater impact on the stock due to the low number of units available. Higher ratios mean higher demand for the stock, but they also imply higher brokerage fees and transaction costs, which, if left unchecked, may minimize returns (Investopedia, 2013).

$\beta 0$ = is the constant term, μ = is the error term and. βi = coefficient of the independent variable

To establish a relationship between variables, this study employed Model of Autoregressive Distributed Lag (ARDL) for its parameter estimations. In order to examine both the short-run and long-run impacts of the explanatory factors on the explained variable, Pesaran, Shin, and Smith (2001) developed the ARDL model technique. When each variable is level-integrated, i.e. Integrated at first difference, or I (0), is expressed as I(1), or a mixture of the two, ARDL yields reliable estimations of the parameters (Pesaran, Shin and Smith, 2001).

3.5 Methodology

In order to analyze the time- series data from the year 1990 to 2020, the study used the Autoregressive Distributed Lag (ARDL) analytical tool. This study employed the Autoregressive Distributed Lag (ARDL) Model for its estimations in order to establish a connection between variables. However, the Augmented Dickey-Fuller (ADF) test for unit root was applied to examine the stationarity or non-stationarity of the time series data utilized in this study. The long-term relationships among the variables included in this study were also determined using the Johansen co-integration test. In order to address any short-term disequilibrium, the Error Correction Model (ECM) is implemented. However, the following explanations of these testing techniques are provided:

3.5.1 The Unit Root Test

This test checks if the variables are stable over time (stationary) or if they tend to vary a lot (non-stationary). The Augmented Dickey-Fuller (ADF) test is commonly used for this purpose. If a variable is I(1), it means it becomes stable after one difference; I(2) means it becomes stable after two differences; and I(0) means it's already stable

3.5.2 The Co-Integration Test

After determining the order of integration, we check if variables of the same order have long-term relationship. This is important because even non-stationary variables can have a stable relationship If the variables are co-integrated, they have a long term connection, whereas a lack of co-integration means they don't have a lasting relationship.

3.5.3 The Error Correction Model

If we find co-integration, we use an ECM to connect short term imbalances. The ECM simultaneously models short-term changes and long-term levels giving insights into hath short and long-term relationships between variables. It helps correct any temporary deviations from the long-term equilibrium.

3.6 Source Of Data

The data for this study was obtained mainly from secondary sources particularly from Central Bank of Nigeria (CBN) statistical Bulletins, Nigerian Stock Exchange (NSE) fact books, Security and Exchange Commission (SEC) market Bulletins, the 2015 World development Indicators online version of 2015 available in www.worldbank.org and relevant journals.

3.7 A Priori Expectation

It refers to the assumed relationship between the model's dependent and independent variables, determined by the complementary hypothesis assumption of McKinnon (1973). The coefficients for market capitalization ratio, stock price ratio, and sales ratio are expected to have positive signs, indicating a positive relationship with the growth rate of gross domestic product (GDPGR).

Table 1 Expected Signs of the Independent Variables in the Models

Sysmbols	Variables	What they represent	Expected Signs
MKTCR	Market capitalization ratio to GDP	The size of the stock market	+
SVTR	Stock value traded ratio to GDP	The liquidity of the stock market	+
TUNR	Turnover ratio	The vaule of stock traded	+

CHAPTER FOUR

PRESENTATION OF DATA AND INTERPRETATION OF RESULTS

4.1 Introduction

In this section, the various variables employed in this study are tested, their parameters estimated, presented and results interpreted in line with economic theorising as it relates to their policy implications. The section start with descriptive statistics, followed by the unit root test, Johansen co-integration test and then the long run and short run regression estimates of the models. Finally, the chapter ends with a summary of the results and its policy implications.

4.2 Descriptive Statistics and Graphical Exposition

The summary statistics of all the series employed in this study are presented and discussed below. Specifically, we have Measures of Central tendencies and Variability. The mean of each of the series is a pointer to the average of the respective variable. The standard deviation shows how distributed the variable is from the mean. The summary statistics are given in Table below.

Table 2 Descriptive Statistics Results

	GDPGR	**MKTCR**	**SVTR**	**TUNR**
Mean	4.341822	11.75047	1.075368	7.697620
Median	4.631193	10.92286	0.828533	6.185100
Maximum	15.32916	30.50899	6.238708	34.78530
Minimum	-2.035119	2.497462	0.108820	1.057837
Std. Dev.	4.081692	6.279341	1.305951	6.646558
Skewness	0.413103	1.119837	2.877061	2.364471
Kurtosis	3.180687	4.321513	11.08991	10.20684

Jarque-Bera	0.923882	8.734947	127.3022	95.97276
Probability	0.630059	0.012683	0.000000	0.000000
Sum	134.5965	364.2645	33.33640	238.6262
Sum Sq. Dev.	499.8063	1182.904	51.16524	1325.302
Observations	31	31	31	31

Source: Author's Computation Using Eviews 9.0 (2023)

The table4.1 indicates that the variables i.e GDPGR, MKTCR, SVTR, TUNR have mean values of 4.34, 11.75, 1.07, 7.69 respectively and their standard deviations are given as follows: 4.08, 6.27, 1.30, 6.64. It shows that all the variables (GDPGR, MKTCR, SVTR TUNR) are positively skewed in nature. The table also shows that the mean value falls between the minimum and maximum values. Furthermore, for the kurtosis value often compared to is 3. From the table above, we see that the kurtosis value in the table are greater than 3 and that implies that the distribution of the variables are all leptokurtic.

Finally, from the Jarque-Bera statistics, it can also be observed that all the variables are normally distributed given that their probability levels are all below the significance level of 0.05 except GDPGR.

Data Spread Overtime

Fig. 1 GDPGR

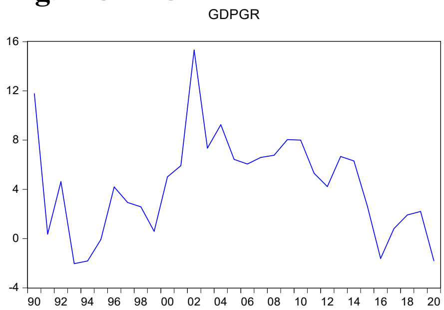


Fig. 2 MKTCR

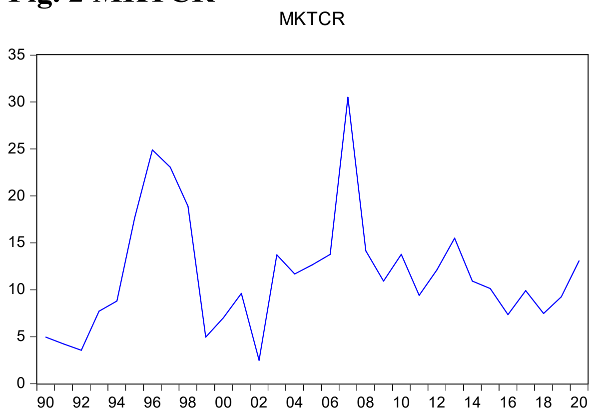


Fig. 3 SVTR

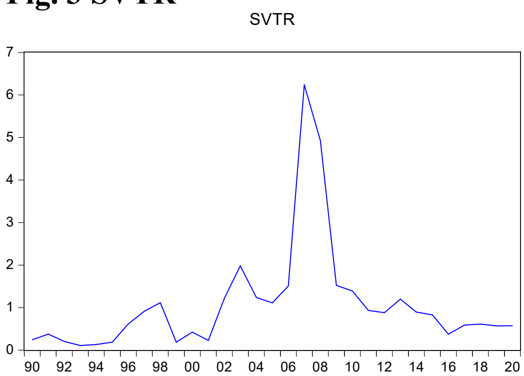
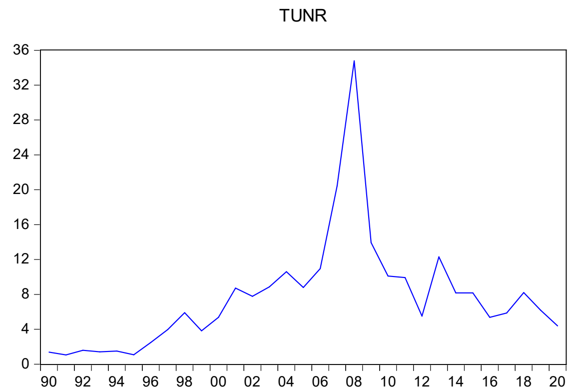


Fig. 4 TUNR



4.3 PRELIMINARY RESULTS

4.3.1 Test For Stationarity/ Unit Root Test

The Augmented Dickey Fuller Test

This section investigate the time series variables' stationarity. Stationarity refers to the fact that the statistical characteristics of a time series (or, more precisely, the process that generate it) do not change with time. Stationarity is imp because many useful analytical techniques, statistical test and models rely on it. The table below shows the stationarity or non-stationarity of the variables in these investigations

Table 3 (At Level)

VARIABLES	ADF TEST	ADF CRITICAL VALUE	ORDER OF	REMARKS

	STATISTICS				INTEGRATION	
		1% LEVEL	5% LEVEL	10% LEVEL		
GDPGR	-3.258038	-3.670170	-2.963972	-2.621007	1(0)	STATIONARY
MKTCR	-3.284010	-3.670170	-2.963972	-2.621007	1(0)	STATIONARY
SVTR	-2.652356	-3.670170	-2.963972	-2.621007	1(0)	NOT STATIONARY
TUNR	-2.483151	-3.670170	-2.963972	-2.621007	1(0)	NOT STATIONARY

Source: Author's Computation Using Eviews 9.0

Table 4 (AT FIRST DIFFERENCE)

VARIABLES	**ADF TEST STATISTICS**	**ADF CRITICAL VALUE**	**ORDER OF INTEGRATION**	**REMARKS**

		1% LEVEL	5% LEVEL	10% LEVEL		
GDPGR	-8.787228	-3.679322	-2.967767	-2.622989	1(1)	STATIONARY
MKTCR	-6.464341	-3.679322	-2.967767	2.622989	1(1)	STATIONARY
SVTR	-5.470748	-3.689194	-2.971853	-2.625121	1(1)	STATIONARY
TUNR	-5.998384	-3.679322	-2.967767	-2.622989	1(1)	STATIONARY

Source: Author's Computation Using Eviews 9.0

From the ADF results in table 4.2.1, GDPGR, and MKTCR were stationary at level while others were stationary at first difference. This result justifies the use of the Autoregressive Distributed Lag Model as the estimating technique for this analysis. As a result of the stationarity of the variables, we now proceed to conduct the ARDL Co-Integration Bounds testing and the estimation of the short and long run models.

4.3.2 Cointegration Test

It is important that we examine the possibility of having a co-integrating relationship amongst the variables of our study; this is in light of the different levels of stationarity of our variables, some at level and some at the first difference. To do this, Pesaran recommended using the ARDL bound cointegration test, and the results are shown below.

Ardl Bound Cointegration Test

Table 5 MODEL 1

Test Statistic	**Value**	**Number of independent variables - K**
F-statistic	4.671217	3
Critical Value Bounds	**I0 Bound**	**I1 Bound**
Level of Significance		
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

Source: ***Author's computation using EVIEWS***

From table 4.4 above, it is evident that the estimated F-statistic of the model surpassed the upper bound limit even at the 5% level of significance. As a consequence, the findings indicate a long-term link between the variables in the model

4.4 DIAGONISTIC TEST

Serial Correlation Test

To ensure that variables in the models are free from autocorrelation that may result for whatever deficiency of the Durbin Watson test of autocorrelation, the serial correlation LM test was conducted. The weakness of Durbin Watson is corrected via serial correlation LM test.

Table 5: Breusch-Godfrey Serial Correlation LM Test

F-statistics	Prob. F(2,16)
3.019682	0.0772

The Breusch-Godfrey Serial Correlation LM test result in Table 4. 5 shows that the probability value (0.0772) are greater than 0.05 levels of significance which imply that the null hypothesis of no serial correlation cannot be rejected. Thus, this necessitates the acceptance of null hypothesis and therefore concludes that the model has no serial correlation problem.

Heteroskedasticity Test

To get rid of problem of heteroskedasticity, the Breusch-Pagan-Godfrey Heteroskedasticity test was performed for all the models as presented in the tables below.

Table 6: Breusch-Pagan-Godfrey Heteroskedasticity

F-statistics	Prob. F(9,18)
1.030011	0.4542

Source: ***Author's computation using EVIEWS***

Similarly, Breusch-Pagan-Godfrey heteroskedasticity test result in Table 4.6 shows that the probability values (0.4524) is greater than 0.05 level of significance, and this implies that the null hypothesis of homoscedasticity can not be that is, relevant variables were not omitted, the functional form of the model is correct, and there is no serial correlation between the independent variables and disturbance term.

Ramsey Reset Test

The specification of the model to ascertain if non-linear combinations of the independent variables have any power in explaining the dependent variable or not were performed via the Ramsey Reset Specification test. The p-values for all the models are insignificant at 5% level of significance, which shows that the models were well specified in their functional form.

Table 7: Ramsey Reset Test

F-statistics	df	p-value
1.794688	(1, 17)	0.1980

Source: ***Author's computation using EVIEWS***

The p-values for the model is insignificant at 5% level of significance, which shows that the model were well specified in their functional form

4.4 Model Estimates

Short-Run and Long-Run Estimation

MODEL 1

TABLE 8: Short-run Result

Dependent Variable: GDPGR

VARIABLES	Coefficien	Std.	t-	P-

	ts	Error.	Statistics	values
D(MKTCR)	-0.131528	0.157105	-0.837198	0.4135
D(MKTCR(-1))	0.161844	0.138961	1.164677	0.2594
D(SVTR)	-0.507785	1.286355	-0.394747	0.6977
D(SVTR(-1))	-3.206823	1.070909	-2.994486	0.0078
D(SVTR(-2))	1.622667	0.701695	2.312496	0.0328
D(TUNR)	0.738871	0.341778	2.161844	0.0443
ECM(-1)	-0.389843	0.180025	-2.165497	0.0440

Source: ***Author's computation using EVIEWS***

The error correction term (ECM (-1)) from Table 4.7 represents the speed of adjustment needed to restore equilibrium in the dynamic model after a disturbance. The coefficient of the error term which is the speed of adjustment conforms to a priori expectation as it both negative and statistically significant at 5% level. ECM coefficient of about -0.389843 implies that a shock to economic growth measured by GDPGR in the current period will be restored at a speed adjustment of about 38.9% in the next period. Put differently, the rate of adjustment of a short-run disequilibrium in GDPGR is very fast as about 38.9% of the divergence as a result of a current period shock will converge towards long-run equilibrium in the next period. Thus, confirming the adequacy and statistically efficiency of the model.

The coefficient of MKTCR is -0.131528 which depicts that a unit increase in Market

Capitalization will bring about a 13.15% insignificant (P-value of 0.4135 greater than 5%) decrease in economic growth rate in Nigeria. While the one-year lag coefficient of MKTCR is 0.161844 and it depicts that a unit increase in last year Market Capitalization will bring about a 16.18 insignificant (P-value of 0.2594 greater than 5%) increase in the current level of economic growth rate. The coefficient of SVTR is -0.507785 and it depicts that a unit increase in Stock Value Traded will lead to a 50.78% insignificant (P-value of 0.6977 greater than 5%) increase in economic growth rate in Nigeria. While the one-year lagged coefficient of SVTR is -3.206823 and depicts that a unit increase in last year Stock Value Traded will bring about a 320.68% significant (P-value of 0.0078 less than 5%) decrease in the current level of economic growth rate in Nigeria. Again,the two-years lagged coefficient of SVTR is 1.622667. This depicts that a unit increase in last two years Stock Value Traded will bring a 162.27% significant (P-value of 0.0328 less than 5%) increase in economic growth rate in Nigeria. Lastly, the coefficient of TUNR is 0.738871 and depicts that a unit increase in Turnover rate will result to a 73.89% significant (P-value of 0.0443 less than 5%) increase in economic growth rate in Nigeria.

TABLE 9: Long-run Result

VARIABLES	**Coefficients**	**Std. Error.**	**t-Statistics**	**P-values**
MKTCR	0.061769	0.438606	0.140830	0.8896
SVTR	-8.587947	7.501845	-1.144778	0.2673
TUNR	1.895306	1.284332	1.475713	0.1573

C	-2.896479	6.781060	-0.427142	0.6743

Source: ***Author's computation using EVIEWS***

From the long run estimation, the coefficient of MKTCR is 0.061769 and it depicts that market capitalization rate has a positive but insignificant relationship with economic growth rate in Nigeria. Specifically, a unit increase in MKTCR will bring about 6.18% increase in economic growth rate. The probability value of MKTCR is 0.8896and it's greater than 5% hence it is statistically insignificant. The coefficient of SVTR is -8.587947 and this depicts that SVTR has a negative and insignificant impact on economic growth rate in Nigeria. Specifically, a unit increase in SVTR will bring about a 858% decrease in economic growth rate in the long run in Nigeria. Finally, the coefficient of TUNR is 1.895306 and this depicts turnover rate have a positive and insignificant impact on economic growth rate in the long run. Specifically, a unit increase in TUNR will bring about a 189% insignificant Increase in economic growth rate in Nigeria.

Table 10: Statistical Criteria

R- Square	Adj.R-Square	F-Statistics	D.W. Stat	Prob (F- Statistics)
0.673890	0.482060	3.512963	1.681130	0.011110

Source: ***Author's computation using EVIEWS***

The R-squared value of 0.673890 indicates that approximately 67.4% of the variation in the dependent variable (GDPGR) can be explained by the model's set of explanatory variables. Moreover, its adjusted counterpart which takes into consideration the loss of degrees of freedom suggests that the explanatory variable of the model accounts for about 48.2% of the changes in the dependent variable. There is little or no evidence of autocorrelation in the model residuals, as indicated by the Durbin-Watson value of 1.68, which is approximately equal to 2. Lastly, the Prob(F-Stat) value of 0.011110

indicates the goodness of fit of the entire model.

4.5 Discussion of findings

From the ARDL result, there is insignificant negative relationship between Market Capitalization Ratio (MKTCR) and economic growth rate in the short run inNigeria. This finding is not in tandem with a priori expectation in that an increase in stock market capitalization will bring about an increase in economic growth rate. However, MKTCR has a positive but insignificant impact on economic growth rate in the long run. This findings is in agreement with a priori expectation. There is an insignificant negative relationship between Stock Value Traded (SVTR)and economic growth rate in the short and long run. This finding is not in tandem with the a priori expectation.

Finally, there is an significant and positive relationship between value Turnover Ratio and economic growth in the short run in Nigeria. This finding is in tandem with a priori expectation in that an increase in TUNR is expected to increase economic growth rate. However, TUNR has a positive but insignificant impact on economic growth in the long run. This finding is in agreement with a priori expectation.

Policy Implication

The results of the ARDL model, shows that there is insignificant negative relationship between market capitalization (MKTCR) and economic growth in Nigeria. The implication is that the Nigerian stock market is relatively small compared to the overall size of the economy. While it has been growing, it is still not as large or developed as stock markets in some other countries. Therefore, its impact on GDP may be limited.

This finding is not in tandem with a priori expectation in that an increase in market capitalization will have a negative effect increase on economic growth in the short run and a positive effect on the long run. To this end, MKTCR is a significant variable in determining the level of economic growth in the long run in Nigeria.

There is an insignificant negative relationship between stock value traded (SVTR)and economic growth in both the short and long run. This finding is also not in tandem with a priori expectation in that an increase (SVTR)will bring about an decrease economic growth in Nigeria. The implication of this result is that SVTR is not a significant variable in investigating the determinants of economic growth in Nigeria.

Finally, there is significant positive relationship in the short run and a insignificant positive relationship in the long run between Turnover ratio and economic growth in Nigeria. This finding is in tandem with a priori expectation in that an increase in SVTR will bring about a higher demand for stock which in turn increases economic growth measured by GDPGR. Hence, TUNR is an important determinant of economic growth in Nigeria.

The implication of the findings is that only TUNR is crucial in improving economic growth in Nigeria. Therefore, the importance of the stock market turnover ratio cannot be over-emphasized in effecting and increasing economic growth in Nigeria.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

The effect of capital market on economic growth of Nigeria and South Africa from 1990 to 2020 was ascertained in this study. The result of the study revealed the following:

- Market capitalization ratio to GDP has no significant effect on economic growth of Nigeria. The relationship between market capitalization ratio to GDP and economic growth is negative and insignificant in the short run, but positive and insignificant in the long run.

- Stock value traded ratio to GDP has no significant effect on economic growth of Nigeria. The economic growth rate of Nigeria and stock value traded ratio are negative and insignificantly related.
- Turnover ratio has no significant effect on economic growth of Nigeria. Capital market turnover ratio of Nigeria has positive and significant relationship with economic growth in the short run, but positive insignificant relationship with economic growth rate.

5.2 Recommendations

The study therefore made the following recommendations:

1. As part of policies designed to improve capital market activities in Nigeria, there is a need to increase their size by increasing the level of savings from the local populace. Nigeria government should in collaboration with banks sensitize the unbanked local populace and provide for them incentives that will encourage them to bank.Therefore government policies to mobilize funds and increase savings which will in turn increase investment and activities in the capital markets should be instituted as this will have a strong impact on the economic growth of Nigeria.
2. The capital market regulators in Nigeria should ensure that all information needed by both local and foreign investors are readily available and accessible. The regulators should ensure that adequate Information sharing technologies are

put in place. This can be achieved by adopting integrated client communication strategy.

3. Government activity in the capital markets create a crowding out effect by exerting upward pressure on the interest rates and making investments less profitable. The government should adopt programs that rely more on long-term sources of financing through the issue of medium-term to long-term bonds. This will stabilize interest rates and encourage greater private participation in the securities market.
4. Another tool that will help to increase the size and liquidity of Nigeria capital markets is to increase the number of financial instruments available to investors. Therefore, the capital market regulators in Nigeria should ensure that the number of securities traded in their exchanges is greatly increased in order to increase trading, liquidity and broaden the size of their markets

5.3 Conclusion

This study examined the effect of capital markets on economic growth in Nigeria. A set of variables that measures the capital market performance such as market capitalization ratio to GDP, stock value traded ratio to GDP and turnover ratio were analysed using ARDL Bond test. The result of the Bond tests proved that a long- run relationship exists between capital markets and economic growth in Nigeria. This implies that capital markets affect economic growth positively. The results does not really favour Nigeria because the indicator of capital market in Nigeria behaved insignificantly.

The reason for Nigeria capital market insignificant behavior is the fact that it's capital market size and liquidity position is small.

Therefore, the governments needs to do more to overcome the challenges that are still being faced by the capital markets by improving institutions, infrastructures and regulatory systems in order to develop the capital markets better and reach the performance level of other developing and emerging markets.

5.4 Contributions of the Study to knowledge

1 The empirical evidence revealed that capital market studies and their effect on economic growth have been a popular line of research interest. However, only a few have tried to present a comparative study on countries in different regions of Africa.The study evaluated the effect of capital market on economic growth of Nigeria.

2 This study has succeeded establishing the fact that the results of the study are consistent with the confirmation that capital market development indeed spurs economic growth.

3 Finally, the study contributes to knowledge by extending period of coverage of related works to 2020.

5.5 Recommendations for Further Studies

The study recommends the following areas for further studies:

1 The scope of this study was 1990-2020, this study recommends for a study that will cover wider scope, like from 1980- 2022. This is to capture a wider and

longer term relationship.

2 The study did not include some capital market variables like the number of new listings and number of listed companies in the capital markets. The study suggests the inclusion of these capital market variables in the further studies of the markets.

3 The current financial globalization has indeed increased the level of financial markets integration especially through cross border listings. Therefore, further studies should focus on markets integration and volatility in Sub Saharan Africa.

References.

Abina, A. P., & Maria, L. G. (2019). Capital market and performance of Nigeria economy. *International Journal of Innovative Finance and Economics Research*, *7*(2), 51-66.

Abina, A. P., & Maria, L. G. (2019). Capital market and performance of Nigeria economy. *International Journal of Innovative Finance and Economics Research*, *7*(2), 51-66.

Abonazel, M. R., & Abd-Elftah, A. I. (2019). Forecasting Egyptian GDP using ARIMA models. *Reports on Economics and Finance*, *5*(1), 35-47.

Acha, I. A., & Akpan, S. O. (2019). Capital market performance and economic growth in Nigeria. *Noble International Journal of Economics and Financial Research*, *4*(2), 10-18.

Akujinma, A. F., & Kenechukwu, C. (2023). CAPITAL MARKET PERFORMANCE AND UNEMPLOYMENT REDUCTION IN NIGERIA. *African Banking and Finance Review Journal*, *1*(1), 28-40.

Aum, S., Lee, S. Y. T., & Shin, Y. (2021). Inequality of fear and self-quarantine: Is there a trade-off between GDP and public health?. *Journal of Public Economics*, *194*, 104354.

Ball, R. (2009). The global financial crisis and the efficient market hypothesis: what have we learned?. *Journal of Applied Corporate Finance*, *21*(4), 8-16.

Berglund, T. (2020). Liquidity and corporate governance. *Journal of Risk and Financial Management*, *13*(3), 54.

Bhuiyan, E. M., & Chowdhury, M. (2020). Macroeconomic variables and stock market indices: Asymmetric dynamics in the US and Canada. *The Quarterly Review of Economics and Finance*, *77*, 62-74.

Block, J. H., Groh, A., Hornuf, L., Vanacker, T., & Vismara, S. (2021). The entrepreneurial finance markets of the future: a comparison of crowdfunding and initial coin offerings. *Small Business Economics*, *57*(2), 865-882.

Carp, M., Păvăloaia, L., Afrăsinei, M. B., & Georgescu, I. E. (2019). Is sustainability reporting a business strategy for firm's growth? Empirical study on the Romanian capital market. *Sustainability*, *11*(3), 658.

Chen, Y., Kumara, E. K., & Sivakumar, V. (2021). Investigation of finance industry on risk awareness model and digital economic growth. *Annals of Operations Research*, 1-22.

Chidi-Okeke, C. N., & Ubah, C. B. (2023). Effect of Bond Market on the Capital Market Performance in Nigeria. *Asian Journal of Economics, Finance and Management*, 51-60.

Clarke, J., Jandik, T., & Mandelker, G. (2001). The efficient markets hypothesis. *Expert financial planning: Advice from industry leaders*, *7*(3/4), 126-141.

Dabwor, D. T., Iorember, P. T., & Yusuf Danjuma, S. (2022). Stock market returns, globalization and economic growth in Nigeria: evidence from volatility and cointegrating analyses. *Journal of Public Affairs*, *22*(2), e2393.

Diamond, D. W. (2023). Nobel Lecture: Financial Intermediaries and Financial Crises. *Journal of Political Economy*, *131*(10), 000-000.

Eze, C. C., Ezenwa, N., & Chikezie, C. (2020). Effect of the Nigerian Stock Exchange on Economic Growth in Nigeria: Perspectives from Local Investors. *Nigerian Journal of Agricultural Economics*, *10*(1), 18-28.

Ezeanyeji, C. I., & Maureen, I. (2019). Foreign portfolio investment on economic growth of Nigeria: An impact analysis. *International Journal of Academic Management Science Research*, *3*(3), 24-36.

Ezirim, C. B., Adebajo, U. R., Elike, U., & Muoghalu, I. M. (2009). Capital market growth and information technology: Empirical evidence from Nigeria. *International Journal of Business and Economics Perspectives*, *4*(1), 1-17.

Ezu, G. K. (2023). ECONOMIC GROWTH AND MONEY MARKET DEVELOPMENT IN NIGERIA: THE NEXUS. *African Banking and Finance Review Journal*, *3*(3), 323-337.

Fishkin, J., Keniston, K., & McKinnon, C. (1973). Moral reasoning and political ideology. *Journal of Personality and social Psychology*, *27*(1), 109.

García-Ruiz, J. L., & Vasta, M. (Eds.). (2023). *Bank-Industry versus Stock Market-Industry Relationships*. Taylor & Francis.

Godke Veiga, M., & McCahery, J. A. (2019). The financing of small and medium-sized enterprises: an analysis of the financing gap in Brazil. *European Business Organization Law Review*, *20*, 633-664.

Harjoto, M. A., Rossi, F., Lee, R., & Sergi, B. S. (2021). How do equity markets react to COVID-19? Evidence from emerging and developed countries. *Journal of Economics and Business*, *115*, 105966.

Idedekumoh, o. D. (2020). Impact of Foreign Direct Investment on Development of

Capital Market.

Idowu, A., & Babatunde, M. A. (2012). Effect of financial reforms on capital market development in Nigeria. *Asian Journal of Business and Management Sciences*, *8*, 44-52.

Idrees, M., Hayat, U., Radulescu, M., Alam, M. S., Rehman, A., & Panait, M. (2022). Measuring the financial liberalization index for Pakistan. *Journal of Risk and Financial Management*, *15*(2), 57.

Ikon, M. A., & Itua, O. P. (2019). Economic Diversification of Nigeria and Small and Medium Scale Enterprise (SME) Development (2000-2017). *European Journal of Business and management*, *11*(14), 19-25.

İlhan, B. (2019). Stock market liberalization: implications on cost of capital in emerging Islamic countries. *Journal of Capital Markets Studies*, *3*(2), 157-178.

Islam, M. T., & Alam, M. J. (2019). The relationship between informal economy and GDP growth: a study on south-asian developing countries. *Can. J. Bus. Inf. Stud*, *1*(5), 01-09.

Jakovljevic, M., Timofeyev, Y., Ranabhat, C. L., Fernandes, P. O., Teixeira, J. P., Rancic, N., & Reshetnikov, V. (2020). Real GDP growth rates and healthcare spending–comparison between the G7 and the EM7 countries. *Globalization and Health*, *16*(1), 1-13.

Khan, W., Ghazanfar, M. A., Azam, M. A., Karami, A., Alyoubi, K. H., & Alfakeeh, A. S. (2020). Stock market prediction using machine learning classifiers and social media, news. *Journal of Ambient Intelligence and Humanized Computing*, 1-24.

Mishkin, F. S., & Eakins, S. G. (2019). *Financial markets*. Pearson Italia.

Mishra, P. K., Mishra, U. S., Mishra, B. R., & Mishra, P. (2010). Capital market efficiency and economic growth: the case of India. *European Journal of Economics, Finance and Administrative Sciences*, *27*(18), 130-138.

Myovella, G., Karacuka, M., & Haucap, J. (2020). Digitalization and economic growth: A comparative analysis of Sub-Saharan Africa and OECD economies. *Telecommunications Policy*, *44*(2), 101856.

NDUDI, F. E., OLANNYE, A., & IYAMAHBOR, M. (2020). CAPITAL MARKET AS A CATALYST FOR ECONOMIC GROWTH: NIGERIA IN PERSPECTIVE. *PalArch's Journal of Archaeology of Egypt/Egyptology*, *17*(7), 13123-13140.

Nyasha, S., & Odhiambo, N. M. (2015). Banks, stock market development and economic growth in South Africa: a multivariate causal linkage. *Applied Economics Letters*, *22*(18), 1480-1485.

Omoke, J. M. (2010). *The relationship between capital market development and economic growth in Kenya* (Doctoral dissertation, University of Nairobi, Kenya).

Osinubi, T. S., & Amaghionyeodiwe, L. A. (2003). Stock market development and long-run growth in Nigeria. *Journal of African Business*, *4*(3), 103-129.

Otero, I., Farrell, K. N., Pueyo, S., Kallis, G., Kehoe, L., Haberl, H., ... & Pe'Er, G. (2020). Biodiversity policy beyond economic growth. *Conservation letters*, *13*(4), e12713.

Oyerinde, A. A. (2019). Foreign portfolio investment and stock market development in Nigeria. *The Journal of Developing Areas*, *53*(3).

Ozo, F. K., & Arun, T. G. (2019). Stock market reaction to cash dividends: evidence from the Nigerian stock market. *Managerial Finance*, *45*(3), 366-380.

Raubenheimer, H. (Ed.). (2019). African capital markets: Challenges and opportunities.

Rilwanu, U. I., & Daniel, C. O. (2020). Role of capital market on economic development in Nigeria. IOSR *Journal of Business and Management*, 22(5), 01-06.

Robinson, E. L. (1952). Effect of temperature variation on the long-time rupture strength of steels. *Transactions of the American Society of Mechanical Engineers*, *74*(5), 777-780.

Saliya, C. A. (2022). Stock market development and nexus of market liquidity: The case of Fiji. *International Journal of Finance & Economics*, *27*(4), 4364-4382.

Schwartz, R. A., & Peng, L. (2021). Market liquidity. In *Encyclopedia of Finance* (pp. 1-5). Cham: Springer International Publishing.

Sewell, M. (2011). History of the efficient market hypothesis. *Rn*, *11*(04), 04.

Shafaq. (2023). Role of Capital Markets in Financial System. *Issue 1 Indian JL & Legal Rsch.*, *5*, 1.

Shafaq. (2023). Role of Capital Markets in Financial System. *Issue 1 Indian JL & Legal Rsch.*, *5*, 1.

Shah, D., Isah, H., & Zulkernine, F. (2019). Stock market analysis: A review and taxonomy of prediction techniques. *International Journal of Financial Studies*, *7*(2), 26.

Siegel, J. J. (2021). *Stocks for the long run: The definitive guide to financial market returns & long-term investment strategies*. McGraw-Hill Education.

Siegel, J. J. (2021). *Stocks for the long run: The definitive guide to financial market returns & long-term investment strategies*. McGraw-Hill Education.

Soumaré, I., Kanga, D., Tyson, J., & Raga, S. (2021). Capital market development in sub-Saharan Africa: Progress, challenges and innovations. *Joint FSD Africa and ODI working paper. London: Overseas Development Institute*.

Soumaré, I., Kanga, D., Tyson, J., & Raga, S. (2021). Capital market development in sub-Saharan Africa: Progress, challenges and innovations. *Joint FSD Africa and ODI working paper. London: Overseas Development Institute*.

Stoian, A., & Iorgulescu, F. (2019). Sustainable capital market. *Financing sustainable development: Key challenges and prospects*, 193-226.

Tripathi, A., & Dixit, A. (2020). Liquidity of financial markets: a review. *Studies in Economics and Finance*, *37*(2), 201-227.

Ubesie, M. C., Nwanekpe, C. E., & Ejilibe, C. (2020). Impact of capital market on economic growth in Nigeria. *Business and Management Research*, *9*(2), 49-57.

Van Kervel, V., & Menkveld, A. J. (2019). High-frequency trading around large institutional orders. *The Journal of Finance*, *74*(3), 1091-1137.

Van Nieuwerburgh, S., Buelens, F., & Cuyvers, L. (2006). Stock market development and economic growth in Belgium. *Explorations in Economic History*, *43*(1), 13-38.

Whitton, C., Bogueva, D., Marinova, D., & Phillips, C. J. (2021). Are we approaching peak meat consumption? Analysis of meat consumption from 2000 to 2019 in 35 countries and its relationship to gross domestic product. *Animals*, *11*(12), 3466.

Widagdo, B., Jihadi, M., Bachitar, Y., Safitri, O. E., & Singh, S. K. (2020). Financial Ratio, Macro Economy, and Investment Risk on Sharia Stock Return. *The Journal of Asian Finance, Economics and Business*, *7*(12), 919-926.

APPENDIX I

DESCRIPTIVE STATISTICS

	GDPGR	MKTCR	SVTR	TUNR
Mean	4.341822	11.75047	1.075368	7.697620
Median	4.631193	10.92286	0.828533	6.185100
Maximum	15.32916	30.50899	6.238708	34.78530
Minimum	-2.035119	2.497462	0.108820	1.057837
Std. Dev.	4.081692	6.279341	1.305951	6.646558
Skewness	0.413103	1.119837	2.877061	2.364471
Kurtosis	3.180687	4.321513	11.08991	10.20684
Jarque-Bera	0.923882	8.734947	127.3022	95.97276
Probability	0.630059	0.012683	0.000000	0.000000
Sum	134.5965	364.2645	33.33640	238.6262
Sum Sq. Dev.	499.8063	1182.904	51.16524	1325.302
Observations	31	31	31	31

UNIT ROOT TEST
AT LEVEL

Null Hypothesis: GDPGR has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.258038	0.0263
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GDPGR)
Method: Least Squares
Date: 09/26/23 Time: 21:13
Sample (adjusted): 1991 2020

Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDPGR(-1)	-0.529251	0.162445	-3.258038	0.0029
C	1.953793	0.975111	2.003663	0.0549

R-squared	0.274890	Mean dependent var	-0.452371
Adjusted R-squared	0.248993	S.D. dependent var	4.024267
S.E. of regression	3.487457	Akaike info criterion	5.400563
Sum squared resid	340.5459	Schwarz criterion	5.493976
Log likelihood	-79.00844	Hannan-Quinn criter.	5.430447
F-statistic	10.61481	Durbin-Watson stat	1.750491
Prob(F-statistic)	0.002939		

Null Hypothesis: MKTCR has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.284010	0.0248
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(MKTCR)
Method: Least Squares
Date: 09/26/23 Time: 21:14

Sample (adjusted): 1991 2020
Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MKTCR(-1)	-0.536032	0.163225	-3.284010	0.0028
C	6.545588	2.167853	3.019387	0.0054

R-squared	0.278066	Mean dependent var	0.270877
Adjusted R-squared	0.252283	S.D. dependent var	6.487121
S.E. of regression	5.609455	Akaike info criterion	6.351125
Sum squared resid	881.0476	Schwarz criterion	6.444538
Log likelihood	-93.26687	Hannan-Quinn criter.	6.381008
F-statistic	10.78472	Durbin-Watson stat	1.960507
Prob(F-statistic)	0.002751		

Null Hypothesis: SVTR has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.652356	0.0941
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(SVTR)
Method: Least Squares
Date: 09/26/23 Time: 21:14

Sample (adjusted): 1991 2020
Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SVTR (-1)	-0.397050	0.149697	-2.652356	0.0130
C	0.444675	0.254462	1.747509	0.0915

R-squared	0.200799	Mean dependent var	0.011068
Adjusted R-squared	0.172256	S.D. dependent var	1.173949
S.E. of regression	1.068063	Akaike info criterion	3.033912
Sum squared resid	31.94127	Schwarz criterion	3.127325
Log likelihood	-43.50868	Hannan-Quinn criter.	3.063795
F-statistic	7.034995	Durbin-Watson stat	1.694355
Prob(F-statistic)	0.013015		

Null Hypothesis: TUNR has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.483151	0.1294
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(TUNR)
Method: Least Squares
Date: 09/26/23 Time: 21:15

Sample (adjusted): 1991 2020
Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TUNR (-1)	-0.349188	0.140623	-2.483151	0.0193
C	2.826620	1.439334	1.963839	0.0595

R-squared	0.180473	Mean dependent var	0.100173
Adjusted R-squared	0.151204	S.D. dependent var	5.532852
S.E. of regression	5.097424	Akaike info criterion	6.159688
Sum squared resid	727.5444	Schwarz criterion	6.253101
Log likelihood	-90.39532	Hannan-Quinn criter.	6.189572
F-statistic	6.166036	Durbin-Watson stat	1.963307
Prob(F-statistic)	0.019281		

AT FIRST DIFFERENCE

Null Hypothesis: D(GDPGR) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.787228	0.0000
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GDPGR,2)

Method: Least Squares
Date: 09/26/23 Time: 21:16
Sample (adjusted): 1992 2020
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDPGR(-1))	-1.347763	0.153378	-8.787228	0.0000
C	-0.188971	0.610704	-0.309432	0.7594

R-squared	0.740921	Mean dependent var	0.255719
Adjusted R-squared	0.731326	S.D. dependent var	6.322957
S.E. of regression	3.277429	Akaike info criterion	5.278468
Sum squared resid	290.0217	Schwarz criterion	5.372764
Log likelihood	-74.53779	Hannan-Quinn criter.	5.308000
F-statistic	77.21538	Durbin-Watson stat	1.807480
Prob(F-statistic)	0.000000		

Null Hypothesis: D(MKTCR) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.464341	0.0000
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(MKTCR,2)

Method: Least Squares
Date: 09/26/23 Time: 21:33
Sample (adjusted): 1992 2020
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(MKTCR(-1))	-1.219964	0.188722	-6.464341	0.0000
C	0.337843	1.217984	0.277379	0.7836

R-squared	0.607488	Mean dependent var	0.157216
Adjusted R-squared	0.592951	S.D. dependent var	10.27786
S.E. of regression	6.557317	Akaike info criterion	6.665512
Sum squared resid	1160.957	Schwarz criterion	6.759808
Log likelihood	-94.64992	Hannan-Quinn criter.	6.695044
F-statistic	41.78771	Durbin-Watson stat	2.043161
Prob(F-statistic)	0.000001		

Null Hypothesis: D(MKTCR) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.464341	0.0000
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

*MacKinnon (1996) one-sided p-values.

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.470748	0.0001
Test critical values: 1% level	-3.689194	
5% level	-2.971853	
10% level	-2.625121	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(SVTR,2)
Method: Least Squares
Date: 09/26/23 Time: 21:17
Sample (adjusted): 1993 2020
Included observations: 28 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SVTR (-1))	-1.402560	0.256374	-5.470748	0.0000
D(SVTR (-1),2)	0.413714	0.181950	2.273786	0.0318
C	0.018643	0.217383	0.085763	0.9323

R-squared	0.582519	Mean dependent var	0.006312
Adjusted R-squared	0.549120	S.D. dependent var	1.712935
S.E. of regression	1.150195	Akaike info criterion	3.218697
Sum squared resid	33.07370	Schwarz criterion	3.361433
Log likelihood	-42.06175	Hannan-Quinn criter.	3.262333
F-statistic	17.44146	Durbin-Watson stat	2.129261
Prob(F-statistic)	0.000018		

Null Hypothesis: D(TUNR) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.998384	0.0000
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

*MacKinnon (1996) one-sided p-values.

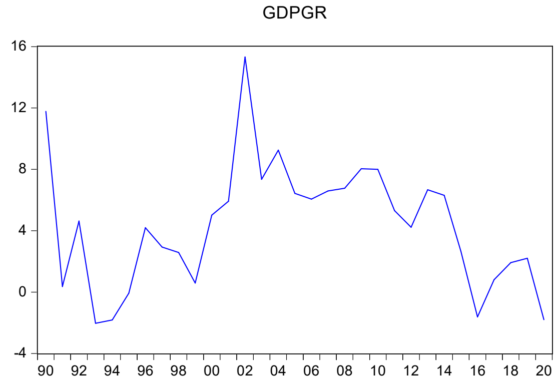
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(TUNR,2)
Method: Least Squares
Date: 09/26/23 Time: 21:17
Sample (adjusted): 1992 2020
Included observations: 29 after adjustments

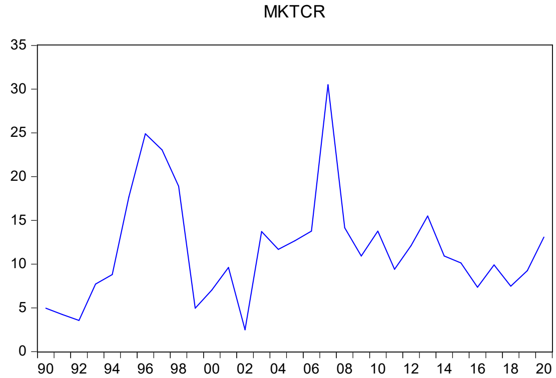
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TUNR (-1))	-1.144592	0.190817	-5.998384	0.0000
C	0.138760	1.054016	0.131649	0.8962

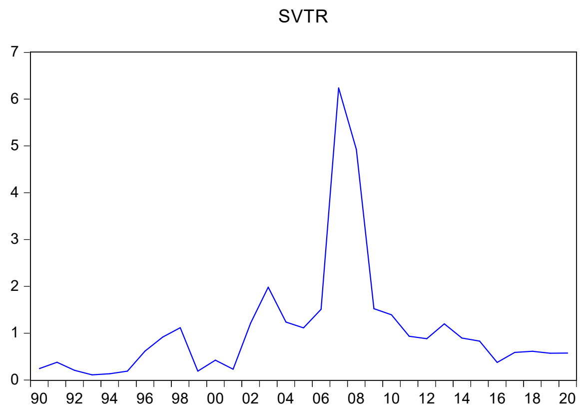
R-squared	0.571297	Mean dependent var	-0.050802
Adjusted R-squared	0.555419	S.D. dependent var	8.508940
S.E. of regression	5.673500	Akaike info criterion	6.375962
Sum squared resid	869.0923	Schwarz criterion	6.470258
Log likelihood	-90.45144	Hannan-Quinn criter.	6.405494
F-statistic	35.98061	Durbin-Watson stat	2.068195

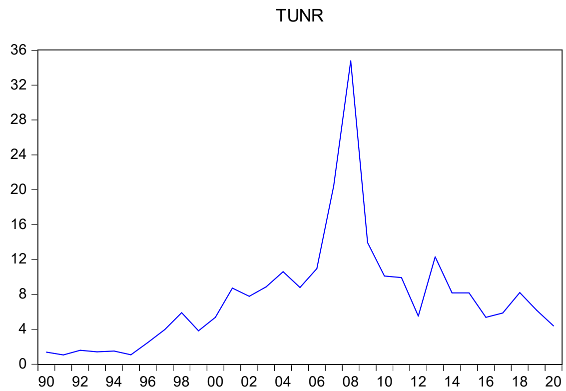
Prob(F-statistic) 0.000002

GRAPHICAL SPREAD OF DATA









Dependent Variable: GDPGR
Method: ARDL
Date: 09/28/23 Time: 01:33
Sample (adjusted): 1993 2020
Included observations: 28 after adjustments
Maximum dependent lags: 1 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (3 lags, automatic): MKTCR SVTR TUNR
Fixed regressors: C
Number of models evalulated: 64
Selected Model: ARDL(1, 2, 3, 0)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GDPGR(-1)	0.610157	0.180025	3.389301	0.0033
MKTCR	-0.131528	0.157105	-0.837198	0.4135
MKTCR(-1)	0.317452	0.168599	1.882878	0.0760
MKTCR(-2)	-0.161844	0.138961	-1.164677	0.2594
SVTR	-0.507785	1.286355	-0.394747	0.6977
SVTR(-1)	-4.424319	1.445959	-3.059782	0.0067
SVTR(-2)	3.206823	1.070909	2.994486	0.0078
SVTR(-3)	-1.622667	0.701695	-2.312496	0.0328
TUNR	0.738871	0.341778	2.161844	0.0443
C	-1.129171	2.435588	-0.463613	0.6485

R-squared	0.639462	Mean dependent var	4.208216

Adjusted R-squared	0.459194	S.D. dependent var	3.981785
S.E. of regression	2.928186	Akaike info criterion	5.259096
Sum squared resid	154.3369	Schwarz criterion	5.734884
Log likelihood	-63.62735	Hannan-Quinn criter.	5.404549
F-statistic	3.547273	Durbin-Watson stat	1.398748
Prob(F-statistic)	0.010680		

*Note: p-values and any subsequent tests do not account for model selection.

ARDL Bounds Test
Date: 09/28/23 Time: 01:37
Sample: 1993 2020
Included observations: 28
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	1.450186	3

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

Test Equation:
Dependent Variable: D(GDPGR)
Method: Least Squares
Date: 09/28/23 Time: 01:37
Sample: 1993 2020
Included observations: 28

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(MKTCR)	-0.218948	0.165360	-1.324074	0.2020
D(MKTCR(-1))	0.233360	0.149189	1.564198	0.1352
D(SVTR)	1.489752	0.876297	1.700054	0.1063
D(SVTR(-1))	-0.842147	1.045288	-0.805660	0.4310
D(SVTR(-2))	0.766585	0.741070	1.034431	0.3146
C	0.952053	2.451439	0.388365	0.7023
MKTCR(-1)	-0.073747	0.177648	-0.415130	0.6830
SVTR(-1)	-0.699264	1.851224	-0.377731	0.7100
TUNR(-1)	0.313517	0.324753	0.965401	0.3471
GDPGR(-1)	-0.465331	0.202243	-2.300849	0.0336

R-squared	0.432438	Mean dependent var	-0.229480
Adjusted R-squared	0.148657	S.D. dependent var	3.473026
S.E. of regression	3.204501	Akaike info criterion	5.439443
Sum squared resid	184.8389	Schwarz criterion	5.915230
Log likelihood	-66.15220	Hannan-Quinn criter.	5.584896
F-statistic	1.523844	Durbin-Watson stat	1.393191
Prob(F-statistic)	0.213345		

ARDL Cointegrating And Long Run Form
Dependent Variable: GDPGR
Selected Model: ARDL(1, 2, 3, 0)
Date: 09/28/23 Time: 01:46
Sample: 1990 2020
Included observations: 28

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(MKTCR)	-0.131528	0.157105	-0.837198	0.4135

D(MKTCR(-1))	0.161844	0.138961	1.164677	0.2594
D(SVTR)	-0.507785	1.286355	-0.394747	0.6977
D(SVTR(-1))	-3.206823	1.070909	-2.994486	0.0078
D(SVTR(-2))	1.622667	0.701695	2.312496	0.0328
D(TUNR)	0.738871	0.341778	2.161844	0.0443
CointEq(-1)	-0.389843	0.180025	-2.165497	0.0440

Cointeq = GDPGR - (0.0618*MKTCR -8.5879*SVTR + 1.8953*TUNR
-2.8965)

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MKTCR	0.061769	0.438606	0.140830	0.8896
SVTR	-8.587947	7.501845	-1.144778	0.2673
TUNR	1.895306	1.284332	1.475713	0.1573
C	-2.896479	6.781060	-0.427142	0.6743

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	3.019682	Prob. F(2,16)	0.0772
Obs*R-squared	7.672735	Prob. Chi-Square(2)	0.0216

Test Equation:
Dependent Variable: RESID
Method: ARDL
Date: 09/28/23 Time: 01:47
Sample: 1993 2020
Included observations: 28

Presampple missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDPGR(-1)	-0.739991	0.343262	-2.155762	0.0467
MKTCR	-0.128540	0.165707	-0.775708	0.4492
MKTCR(-1)	-0.240649	0.202876	-1.186190	0.2529
MKTCR(-2)	0.105648	0.136856	0.771967	0.4514
SVTR	1.489102	1.316870	1.130789	0.2748
SVTR(-1)	1.539947	1.482086	1.039041	0.3142
SVTR(-2)	-0.851489	1.055679	-0.806580	0.4317
SVTR(-3)	0.924867	0.745359	1.240835	0.2326
TUNR	-0.210931	0.320645	-0.657835	0.5200
C	4.571224	2.885337	1.584295	0.1327
RESID(-1)	0.848967	0.386308	2.197641	0.0430
RESID(-2)	0.672730	0.370529	1.815595	0.0882

R-squared	0.274026	Mean dependent var	-4.28E-16
Adjusted R-squared	-0.225081	S.D. dependent var	2.390854
S.E. of regression	2.646278	Akaike info criterion	5.081712
Sum squared resid	112.0446	Schwarz criterion	5.652657
Log likelihood	-59.14397	Hannan-Quinn criter.	5.256256
F-statistic	0.549033	Durbin-Watson stat	1.874119
Prob(F-statistic)	0.841773		

Heteroskedasticity Test: Breusch-Pagan-Godfrey

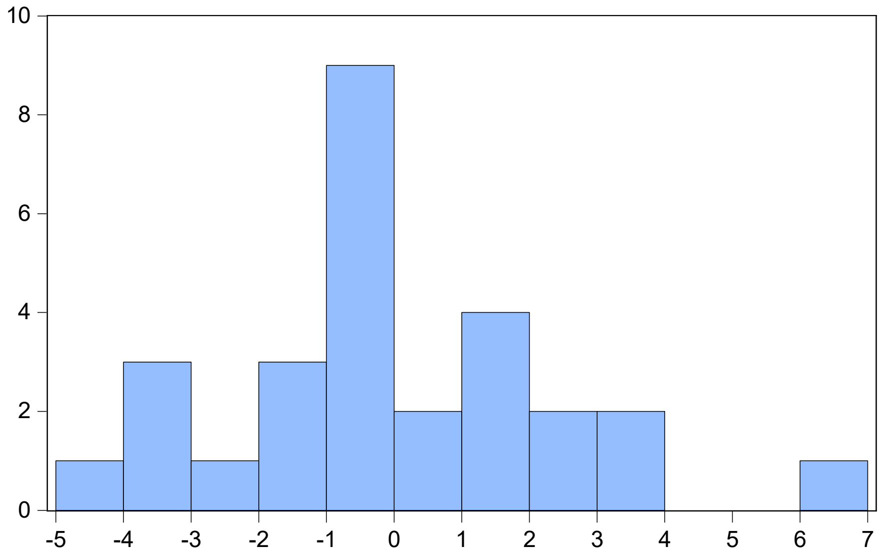
F-statistic	1.030011	Prob. F(9,18)	0.4542
Obs*R-squared	9.518220	Prob. Chi-Square(9)	0.3909
Scaled explained SS	4.097716	Prob. Chi-Square(9)	0.9049

Test Equation:

Dependent Variable: RESID^2
Method: Least Squares
Date: 09/28/23 Time: 01:47
Sample: 1993 2020
Included observations: 28

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.90434	6.705734	2.670004	0.0156
GDPGR(-1)	0.309329	0.495649	0.624090	0.5404
MKTCR	-0.966342	0.432546	-2.234082	0.0384
MKTCR(-1)	0.572805	0.464193	1.233981	0.2331
MKTCR(-2)	-0.461488	0.382590	-1.206220	0.2433
SVTR	4.704439	3.541631	1.328326	0.2007
SVTR(-1)	-4.236551	3.981057	-1.064177	0.3013
SVTR(-2)	3.594773	2.948459	1.219204	0.2385
SVTR(-3)	-2.474598	1.931928	-1.280896	0.2165
TUNR	-0.595146	0.940994	-0.632465	0.5350

R-squared	0.339936	Mean dependent var	5.512034
Adjusted R-squared	0.009905	S.D. dependent var	8.102193
S.E. of regression	8.061968	Akaike info criterion	7.284645
Sum squared resid	1169.916	Schwarz criterion	7.760433
Log likelihood	-91.98504	Hannan-Quinn criter.	7.430098
F-statistic	1.030011	Durbin-Watson stat	2.326117
Prob(F-statistic)	0.454165		



Series: Residuals
Sample 1993 2020
Observations 28

Mean	-4.28e-16
Median	-0.264340
Maximum	6.092821
Minimum	-4.068459
Std. Dev.	2.390854
Skewness	0.332161
Kurtosis	3.083470
Jarque-Bera	0.523007
Probability	0.769893

Ramsey RESET Test
Equation: UNTITLED
Specification: GDPGR GDPGR(-1) MKTCR MKTCR(-1) MKTCR(-2)
SVTR SVTR(-1) SVTR(-2) SVTR(-3) TUNR C
Omitted Variables: Squares of fitted values

	Value	df	Probabilit y
t-statistic	1.339660	17	0.1980
F-statistic	1.794688	(1, 17)	0.1980

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	14.73750	1	14.73750
Restricted SSR	154.3369	18	8.574274
Unrestricted SSR	139.5994	17	8.211732

Unrestricted Test Equation:
Dependent Variable: GDPGR
Method: ARDL
Date: 09/28/23 Time: 01:49
Sample: 1993 2020

Included observations: 28
Maximum dependent lags: 1 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (3 lags, automatic):
Fixed regressors: C

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GDPGR(-1)	0.273099	0.307150	0.889139	0.3863
MKTCR	-0.030531	0.171236	-0.178300	0.8606
MKTCR(-1)	0.076894	0.243861	0.315317	0.7564
MKTCR(-2)	0.031213	0.198144	0.157526	0.8767
SVTR	-0.586869	1.260250	-0.465677	0.6474
SVTR(-1)	-1.457542	2.628067	-0.554606	0.5864
SVTR(-2)	0.658526	2.171799	0.303217	0.7654
SVTR(-3)	-0.457116	1.108386	-0.412416	0.6852
TUNR	0.337636	0.448973	0.752019	0.4623
C	-0.838804	2.393375	-0.350469	0.7303
FITTED^2	0.079803	0.059570	1.339660	0.1980

R-squared	0.673890	Mean dependent var	4.208216
Adjusted R-squared	0.482060	S.D. dependent var	3.981785
S.E. of regression	2.865612	Akaike info criterion	5.230164
Sum squared resid	139.5994	Schwarz criterion	5.753530
Log likelihood	-62.22230	Hannan-Quinn criter.	5.390162
F-statistic	3.512963	Durbin-Watson stat	1.681130
Prob(F-statistic)	0.011110		

*Note: p-values and any subsequent tests do not account for model selection.

APPENDIX II

YEARS	GDPGR	MKTCR	SVTR	TUNR
1990	11.77689	4.962341	0.242223	1.382234
1991	0.358353	4.235674	0.378538	1.057837
1992	4.631193	3.563457	0.203564	1.587683
1993	-2.03512	7.720107	0.10882	1.409568
1994	-1.81492	8.799977	0.132415	1.504719
1995	-0.07266	17.6504	0.189685	1.07468
1996	4.195924	24.89339	0.615986	2.474498
1997	2.937099	23.06197	0.91636	3.973469
1998	2.581254	18.90276	1.116254	5.905246
1999	0.584127	4.951065	0.18965	3.830479
2000	5.015935	7.035677	0.423547	5.362234
2001	5.917685	9.613772	0.228554	8.716578
2002	15.32916	2.497462	1.214567	7.778728
2003	7.347195	13.71426	1.98353	8.865638
2004	9.250558	11.68635	1.237899	10.59269
2005	6.438517	12.66234	1.112179	8.783357
2006	6.059428	13.76801	1.508708	10.95807
2007	6.59113	30.50899	6.238708	20.44875
2008	6.764473	14.15778	4.924825	34.7853
2009	8.036925	10.92286	1.522914	13.94245
2010	8.005656	13.77322	1.391088	10.09995
2011	5.307924	9.416536	0.934196	9.920804
2012	4.230061	12.11395	0.882124	5.507637
2013	6.671335	15.49841	1.197403	12.30776
2014	6.309719	10.9314	0.893949	8.177811
2015	2.652693	10.13614	0.828533	8.17405
2016	-1.61687	7.362537	0.373075	5.358713
2017	0.805887	9.905001	0.587127	5.867925
2018	1.922757	7.473943	0.613223	8.204812
2019	2.208429	9.256055	0.572499	6.1851
2020	-1.79425	13.08866	0.574256	4.387436