# TRADE LIBERALIZATION, STOCK MARKET PERFORMANCE AND ECONOMIC DEVELOPMENT IN NIGERIA

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**Being A Thesis Submitted To The Department Of Banking And Finance, Faculty of Management Sciences In Partial Fulfillment of The Requirement For The Award of Masters Of Science (M.Sc) Degree In Finance, University Of Benin, Benin City**

**APRIL, 2023**

## DECLARATION

I **Usakutiya Jeff Okundamiya** declare that:

This research work has been composed solely by myself in the Department of Banking and Finance, University of Benin.

This work has not been previously submitted elsewhere for any Master's Degree in Finance

(M.Sc. Finance)

The work is almost entirely my own work; the collaborative contributions have been indicated clearly and acknowledged

Signature: _____

Date: _____

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# DEDICATION

This work is dedicated to Almighty God for giving me the valuable resources to start, organize and conclude this study.

# CERTIFICATION

We certify that this work titled Trade Liberalization, Stock Market Performance and Economic Development in Nigeria was carried out by Usakutiya Jeff Okundamiya in the Department of Banking and Finance, Faculty of Management Sciences, University of Benin, Benin City.

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(Head of Department)

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## ATTESTATION

We the undersigned attest that **Usakutiya JEFF OKUNDAMIYA** has successfully carried out all the corrections as recommended by the external and internal examiners in her thesis titled: **Trade Liberalization, Stock Market Performance and Economic Development in Nigeria**

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# TABLE OF CONTENTS

**CHAPTER FOUR**

**DATA PRESENTATION AND ANALYSIS**



**CHAPTER FIVE**

**SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION**

# ABSTRACT

*This study is to empirically examines the relationship between trade liberaliazation, stock market and economic development in Nigeria.The study present both procedure and the analytical techniques that the research engages in carrying out the investigation on the impact of capital market on the Nigeria economy. This study adopts the census sampling technique were the population and of the study is the Nigeria economy. The Nigeria economy is chosen as a result of the high inflow of foreign capital as participation in international trade. The Nigeria stock market being the largest in West Africa also makes it the focus of this study. This research adopts the causal research design which is a type of ex post factor research design. Causal research design is aimed at analyzing the relationship and patterns between two variables.This study was conducted to investigate the impact of trade liberalization, stock market performance and economic development in Nigeria. To this effect, the FMOLS was adopted on time series data that spanned 1987-2020. The result findings were found to be robust to both data manipulations and specifications. From empirical analysis, a general outcome of the study indicates that trade liberalization has had no significant impact on economic development. Trade openness was found to have a negative and insignificant relationship with economic development in Nigeria.Financial openness had a positive and significant relationship with economic development in Nigeria. Finally, government should make policy to protect local firms and the security exchange commission must increase the depth and breadth of the market.*

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background to the Study

The past three decades has witnessed an upsurge in trade liberalization owning to the short falls of import substitution among developing and transition economies (Ashamu & Soyebo, 2020). The upsurge of trade liberalization among developing economies was also because getting financial support from international agencies like the International Monetary Fund (IMF) and the World Bank (WB) requires the liberalization of domestic economy (Kapaya, 2020). The adoption of trade liberalization (TL) is germane in transforming a closed economy into an opened economy. The term trade liberalization can be used to refer to the degree to which a particular economy is opened to international trade. Trade liberalization is sometimes also referred to as "trade openness" in the finance and economics literature. Trade openness (TOP) is the liberalization of the exchange of goods and services across borders through increased integration among countries (Ijirshar, 2019).

Early studies such as Grossman & Helpman, (1991) and Edward, (1993) have shown that opened economies have greater growth potentials than closed economies via the diffusion of knowledge and transfer of technology. Trade liberalization gives room for economies to tap into benefits accruing from increasing returns to scale and economies of scale. The theory of comparative advantage propounded by Ricardo (1817) linked trade liberalization to economic growth and development as trade liberalization allows for efficient allocation of resources, transfer of knowledge and technology and increased competition in the international and local market. Trade liberalization involves the removal of trade restrictions such as tariffs (duties & surcharges) and discriminatory treatment (licensing rules, quotas) with the aim of linking the domestic and international market through multilateral trade negatiations (Muhammad, Zhui, et al., 2020).

According to Shuand Steinwender (2019), trade liberalization impacts on the economic environment including the domestic financial market. Trade liberalization can influence the local financial market by bringing influx of foreign investors into the local financial market. Trade liberalization has the capacity to propel overall economic activities. The growth rate of opened economies is self-sustaining as a result of the optimal use of imported intermediate inputs resulting in productive efficiency which is reflected in all aspects of the economy and by extension the performance of the stock market (Basu & Morey, 2005).

The stock market is one of the important parts of the financial system which enables firms to raise capital by issuing their shares and also create an environment in which the shares are traded (Umar & Shittu, 2020). The stock market is essential for the long term growth of capital formation and thus becomes a driver of economic growth and development (Udo et al, 2021). The stock market is essential for the mobilization of savings and the channeling of such savings to profitable investments. The Nigeria stock market has been characterized with low market liquidity, low capitalization, long-term instrument and shallow market depth (Egbetunde & Akinlo, 2014; Herve, 2016). Hence, the Nigeria stock market is handicapped in ensuring a vibrant economy and stimulating economic growth and development. The Structural Adjustment Programme adopted by Nigeria in 1986 also saw to the removal of restrictions in the financial markets which was expected to stimulate stock market activities and eventually boost economic growth. However, the average growth rate of the real GDP from 1990 to 2019 was 4.6% (World development indicators, 2020). This therefore begs the question whether trade liberalization and stock market performance has been significant in the growth and developmentof Nigeria economy. It is in the light of this that this study intends to examine the impact of trade liberalization and stock market performance on economic development in Nigeria.

## 1.2 Statement of the Research Problem

Prior to the adoption of SAP in 1986, the Nigeria economy was characterized by inadequate infrastructure, tariff and non-tariff barriers to trade, obstacles to investment and lack of confidence in currency valuation (U.S. Agency for international Development (USAID), 2020). The introduction and adoption of the SAP was most welcomed at the time as it saw to the liberalization of the Nigeria economy giving room for international participation in the local economy and financial market. Since the trade liberalization in Nigeria, series of economic and financial reforms have been put in place aimed at increasing capital inflow. For example, the introduction of the Investors and Exporters (I & E) window and the Naira Denominated Forwards in 2016 and 2017 has resulted in large inflow of capital into the country (Komolafe, 2021**)**. Specifically, foreign private investment increased by 138.7% in 2017 relative to $5.124 billion recorded in 2016. Similar growth was found in 2018 and 2019 (Komolafe, 2021). However, according to Komolafe (2021), there was a drastic reversal in foreign private investment in 2020 resulting in a 59.6% decline. This decline can be attributed to the recent pandemic (COVID-19) that rocked the world and impacted the global financial and economic system. Another probable reason for the decline is the challenges inherent in Nigeria like increasing terrorism, political instability, and macroeconomic instability which might have eroded investors' confidence resulting in rapid divestiture from the stock market and economic underdevelopment.

In the first quarter of 2021, international trade was found to have increased by 4.8% relative to the previous quarter, export increased by 8.4% while import dropped by 2.9% (WDI, 2021). The trade balance of the economy was increased by 18.8% as a result of increment in both oil and non-oil export (Onyedinefu, 2021).These figures are strong indication of Nigeria's participation in international trade as a result of trade liberalization. However, there has been a lack of structural linkage between international trade externalities and economic

development although economic growth has been on a steady increase (Waliu, 2020). Although the liberalization of the Nigeria economy has translated into economic growth, such growth is exclusive as it is not inclusive of the grass root individuals. Therefore, one can rightly argue that trade liberalization in Nigeria has not been translated into economic development as evidenced by poor human development, increasing unemployment rate, and more than 40% of citizens living below poverty line while 25% are yet vulnerable (World Bank, 2021).The inability of trade liberalization to stimulate economic development in Nigeria can be attributed to the poor state of her financial system especially as the financial system has been identified as a channel through which trade liberalization reinforces economic development (Shu, 2019).On the basis of the above, this study intends to access how the interaction between trade liberalization and stock market performance impacts on economic development in Nigeria.

According to Amoasah (2018), economic growth cannot be stimulated alone with the formation of trade liberalization policies as trade liberalization policies must be accompanied with other variables like financial openness (Ajao, 2012) and foreign portfolio investment (Ekeocha, 2008) since they have been found to have an effect on economic growth. Some studies have thus been carried out to examine the linkage between trade liberalization and economic growth in Nigeria on the one hand ( Owusa & Odhiambo, 2014; Duru, et al., 2020, Amoasah, 2018), and stock market performance and economic growth on the other hand (Kapaya, 2020; Umar & Shittu, 2020; Adesanya, et al, 2020). Although these studies have been succinct in linking these relationships, these studies are found to have only examined the independent effect of trade liberalization on economic growth without capturing the role of the financial sector. Since the financial market is a channel through which trade liberalization impact on economic growth, it becomes important to examine how trade liberalization and the financial market interact to stimulate economic development. However, there appears to be paucity in empirical evidence as to the joint impact of trade liberalization

and stock market performance on economic development in Nigeria. This study bridges this gap by investigating the joint effect of trade liberalization and stock market performance on economic development in Nigeria.

Prior literature has been found to consistently investigate the relationship between trade liberalization and economic growth (Emagne, 2017; Hozouri, 2017; Hlalefang, Chitanro & Mishelight, 2018). However, to the best knowledge of the researcher, no known study has linked the joint impact of trade liberalization and stock performance on economic development in Nigeria. The key difference between economic growth and development is that economic development focuses on the quality of life and living standards while economic growth is only focused on the increasing national income or gross domestic product. This difference is most especially taken into account in studies peculiar to developing nation like Nigeria given that Nigeria have consistently reported increasing growth (increased GDP) but its standard of living and quality of life remains stagnated. Therefore, this study deviates from prior studies by investigating the joint impact of trade liberalization, stock market performance and economic development in Nigeria.

### 1.3 Research Questions

The main research question to be empirically answered in this study is whether there is a significant effect of trade liberalization, stock market performance on economic development in Nigeria? The specific questions are;

i. What is the effect of trade openness on economic development in Nigeria?
ii. How does financial openness impact economic development in Nigeria?
iii. What is the result of foreign portfolio investment on economic development in Nigeria?
iv. What is the influence of total value of shares, traded on economic development in Nigeria?

v. What is the consequence of market capitalization on economic development in Nigeria?

## 1.4 Research Objectives

The main objective of this study is to empirically examine the impact of trade liberalization, stock market performance on economic development in Nigeria. The Specific objectives are to;

i. investigate the linkage between trade openness and economic development in Nigeria
ii. examine the nexus between financial openness and economic development in Nigeria.
iii. explore the effect of foreign portfolio investment on economic development in Nigeria
iv. examine the impact of total value of shares traded on economic development in Nigeria.
v. determine the effect of market capitalization on economic development in Nigeria.

## 1.5 Research Hypotheses

The hypotheses to be tested in this study are stated in their null form

$Ho_1$: There is no significant effect of trade openness and economic development in Nigeria.

$Ho_2$: There is no significant association between financial openness and economic development in Nigeria.

$Ho_3$: There is no significant linkage between foreign portfolio investment and economic development in Nigeria.

$Ho_4$: There is no significant impact of total value of shares traded on economic development in Nigeria.

$Ho_5$:There is no significant relationship between market capitalization and economic development in Nigeria.

## 1.6 Scope of the Study

This study focuses on the impact of trade liberalization, stock market performance on economic development in Nigeria. Nigeria is chosen as the focus of this study owing to the large amount of foreign capital inflow into the country which can be attributed to her complete liberalization of trade (WDI, 2021). Secondly, according to the World Bank (2021), 40% of Nigerians live below poverty line while 25% are vulnerable. The statistics also show that Nigeria as a nation faces massive developmental challenges like underdevelopment of human capital. This therefore makes a strong case for studying the impact of trade liberalization and stock market performance on economic development in Nigeria. The time period of this study covers 34 years (1987 to 2020). This period is chosen to capture the different policies and reforms established by the government during the period of study. One of such policies is the trade liberalization policy of the Nigeria economy in 1986 which gave birth to the Structural Adjustment Programme (SAP). The study period is also chosen to capture the promulgation of the National Economic Empowerment and Development Strategy (NEEDS) in 2004 which was aimed at alleviating poverty levels and sustaining economic development. The study ends at 2020 so as so also capture the vision 2020 which was aimed at complete market liberalization and deregulation of the financial sector.

## 1.7 Significance of the Study

This study is significant overall as it examines not only the independent impact of trade liberalization and stock market performance on economic development, but examines the joint effect of these two variables on economic development in Nigeria. The outcome of this study will hopefully be of significance to the various stakeholders highlighted below;

i. **Researchers**: The findings of this study would be of significant to researchers and academics in the field of finance as the outcome of this study will hopefully update existing literature on trade liberalization, stock market performance and economic development in Nigeria.

ii. **Policymakers**: The outcome of this study is expected to aid policy makers like the Legislators and monetary/fiscal agents in making informed decisions as to the implications of librating the economy to allow for more trade.

iii. **Stock market regulators**: it is the expectation of this study that the outcome of this study will hopefully inform market regulators like the Securities and Exchange Commission (SEC) and the Nigeria Exchange Group as to the current performance of the Nigeria stock market and its overall implication for economic development.

iv. **Financial Manager**: Since firms stocks are traded on the stock market, the outcome of this study is expected to give a clear understanding of the impact of stock market on economic development to financial managers.

# CHAPTER TWO

## LITERATURE REVIEW

## 2.1 Introduction

This chapter focuses on the review of the body of existing literature. To enable us achieve this, a given order of review is followed which includes the review of various concepts which would be followed by the review of relevant theories. Finally, previous studies related to this study would also be reviewed.

## 2.2 Conceptual Review and Framework

Various concepts relating to this study will be highlighted and discuss under this sub-section. Issues relating to economic development, trade liberalization, and the relationships between study variables as documented in extant literature would be reviewed hereunder.

### 2.2.1 Concept of Economic Development

The concept of economic development has evolved over time. Till date, no one universal definition of economic development has been documented in the economic literature. However, various scholars and schools of thoughts have attempted to define and conceptualize economic development. For example, the earlier study of Sen (1999) defined economic development as the reinforcing of individual freedoms which allows the individual to participate fully in economic activities. This definition implies that individuals in a particular economy should have opportunities in which they can develop themselves and actively engage in productive activities.

According to O'sullivan and Sheffrin (2021), economic development is said to have occurred when a nation is able to alleviate the political, economic and social status of its citizenry. Economic development thus involves the provision of human capital, adequate infrastructure,

environmental sustainability, adequate health care and quality education. In the opinion of Dhaliwal (2016), economic development encompasses the provision of better standard of living for its citizenry. Economic development have also been described to be a sustained increase in real per capita income and measures the distribution of income and wealth as well as increases in development indictors such as quality of life (McArthur & Mccord, 2017).

Haller (2012) conceptualizes economic development as the process of accumulating national wealth and enhancing living standard of the citizenry through innovations and use of efficient capacities in the production of goods and services. In the words of Feldman, et al, (2014:9), economic development was defined in the following ways,

*"as the expansion of capacities that contribute to the advancement of society through the realization of individuals, firms' and communities' potential. Economic Development is a sustained increase in prosperity and quality of life realized through innovation, lowered transaction costs, and the utilization of capabilities towards the responsible production and diffusion of goods and services. Economic development requires effective institutions grounded in norms of openness, tolerance for risk, appreciation for diversity, and confidence in the realization of mutual gain for the public and the private sector. Economic development is essential to creating the conditions for economic growth and ensuring our economic future.*

The difference between economic development and economic growth has been documented in the literature. Haller (2015) sees economic growth as the increase in GDP, GNP and NI as well as the productive capacity of the economy. On the contrary, economic development indicates specifically the growth impact on the society as it relates to the general standard of living. While economic growth focus on general economic conditions and is also a function of market forces, economic development are factors that determine the microeconomics of the economy i.e. institutions, capital, labor, capital mobility and income and wealth (Feldman et al, 2014).

### 2.2.2 Financial Liberalization and Economic Development

Trade liberalizations the extent to which non- domestic transactions take effect and influence the growth of the economy. Yanikkaya (2003) defines trade liberalization to be an economy's 'trade intensity', the extent to which a nation allows international dealings. Karras (2003) sees international trade liberalization as international dealings with low international trade cost which consist of the cost of transportation, tariff, subsidies taxes, and non-tariff barriers.

The nexus between trade liberalization (TOP) and economic development has long been open to academic debate and thus differing shades of opinion has emerged. Some studies have found a strong positive relationship between trade liberalization and economic development (Chang & Mendy, 2012; Rao & Rao, 2009; Karras, 2003) on the contrary other studies have found a weak or negative relationship (Adhikary,2011; Krugman,1994). Proponents of trade liberalization have established channels through which economic openness could affect growth. In one of his studies, Osabuohien (2007) noted that trade liberalization could affect growth through its direct effect on per capita income since countries specialize in producing goods in which they have comparative advantages. Again, trade liberalization can influence growth via its effect on labor productivity and export capability, thus countries can better be able to increase specialization and division of labor thereby improving productivity and export capability. Trade liberalization allows for more foreign investments in the forms of FDI, FPI, and Remittances which has been theoretically and empirically found to affect growth positively. Klasra (2011) suggests that trade liberalization encourages growth through technology transfer, efficient allocation, and distribution of resources within the economy and interaction with partners. Trade liberalization tends to increase export and imports, thus improving domestic technology leading to a better and efficient production process.

However, not all studies agree that trade liberalization is positively related to growth (Adhikary, 2011; Krugman, 1994). According to these studies trade liberalization sets

exogenous constraint to economic development. Developing economies suffer the most as openness to international trade reinforces their dependence on international demand thus increasing their vulnerability to volatility in the international market. Macroeconomic instability has been identified by Rodrik (1992) to be a result of economic openness as it leads to depreciating exchange rates which results to a balance of payment crisis and fall in domestic demands and investment. For highly import-dependent nations, uncontrolled trade liberalization could lead to outright abandonment of the domestic market while middlemen patronize more of the international market thereby leading to a drop in domestic demand for goods and services.

The tail end of 1980's and the early start of 1990's witnessed the transition of economies from closed to opened economies as these economies were found to have adopted trade liberalization and became financially integrated. Developing nations that had a closed economy were required to adopt the Structural Adjustment Programme (SAP) which saw to the complete removal of trade barriers as this became a pre-requisite for getting loans from monetary agencies (Duru, Okafor, et al, 2020). Specifically, Nigeria adopted the SAP in 1986 with the aim of opening up its economy to foreign trade. Prior to the adoption of SAP, the +import tariffs and sanctions that militated expansion and diversification (Qazi, 2015). Lifting trade barriers promoted importation and exportation in Nigeria, therefore in 1995, Nigeria joined the World Trade Organization (WTO) and reduced all tariff on international trade ensuring the free movement of goods and services.

### 2.2.3 Financial Openness and Economic Development

According to Ajao (2012), financial openness is defined as the degree to which foreign investors are allowed to own equity in the domestic economy as well as the stimulation of foreign capital inflows. Financial openness have proved to be of benefits for many economies, however some economies have experienced cases of economic crisis following

economic and financial openness (Fratzscher & Bussiere, 2017). A case for opening up the financial sector is that positive externalities from financial openness may not be as a result of excess foreign capital, but as a result of mitigating economic vagaries and locks in the reform (Gourinchas & Jeanne, 2002). Opponents of financial openness have based their opinions on the efficient market paradigm asserting that market distortions zero's the benefits of financial openness especially in the form of financial openness (FOP). Market distortions can take the form of asymmetric information and hidden actions (Fasanya & Olayemi, 2020) as well as political factors (Oyovwi & Eshenake, 2013).

When exploring FOP- economic development nexus, one must recognize the role of financial development in economic development especially since the channel through which FOP influences economic development is through the financial sector. According to Rajan and Zingales (2003), financial sector development is a function of the level of financial openness. Liberalizing the equity market bridges the investment gap as well as instill better corporate governance practice in local management especially as foreign investors will want full accountability for their invested funds. Increasing FOP increases funds available for the internal workings of firms, thus increasing investment levels.

The link between financial openness and economic development is dependent on the country specific shocks. For instance, Claessens, Klingebiel and Schmukler (2006) opined that the inefficient and ineffective local market may encourage local firms and investors to source for funds in the international markets, an action that plunge the local market even more. An inefficient economy with financially opened market will see to dwindling investment in its local financial market as a result of increased investment in the international market by local investors (Collier, et al, 2000).

There has been unending empirical debate as to the relationship between FOP and economic development. For example, Stiglitz (2004) is of the opinion that developing economies does

not respond favorably to increased capital flow, rather capital inflow reinforces economic instability as a result of pro-cyclical nature of short term capital flows. However, this finding negates the findings of Quinn and Toyoda (2008) whose empirical findings established a positive relationship between financial system liberalization and economic development for both developed and developing economies. Financial openness was also found to be growth enhancing in the study of Batuo, et al, (2017) although a negative relationship was found between financial openness and financial instability. Bussière and Fratzscher (2008) emphasized in their study that growth after financial openness is propelled by a boom in investment and a decline in portfolio and debt inflows. This position was also held by Gus (2009) who asserted that foreign portfolio investment which is a major component of financial openness stimulates capital accumulation with crowd-in effects.

### 2.2.4 Foreign Portfolio Investment (FPI) and Economic Development

Foreign portfolio investment (FPI) involves the transfer of financial assets including stocks, bonds and cash across international borders in want of profit. FPI occurs when investors purchase a non-controlling interest in foreign companies or buy foreign corporate or governmental bonds (Patro& Wald, 2005). Individuals seeking their own advantage move accumulated funds into wherever they are likely to be most productive and in doing so make profits (love,2003).

International Monetary Fund (IMF) (2005) has defined FPI to include investment in equity and debt, depository receipts purchased by foreign investors of less than 10% control. In recent times, FPI has become an important part of the world economy and many developed and developing countries are exploring it to develop their economy ( Bekaert & Harvey, 2003). The general clamor by developing nations to boost their economy has lead to the call for FPI, thus various governmental agencies are making conscientious efforts in making friendly investment policies which have seen to the removal of trade restrictions.

The burning need of developing nations and the commitment of their various government has brought to the fore the need for a functional financial system given the developmental need of the economy (Wurgler, 2000). The dearth of adequate financing has been identified as one key factor inhibiting the much-needed investment in infrastructure. Hence substantial long term financing would go a long way in resuscitating the dearth of key sectors in an economy (Knill, 2004). Capital in the form of FPI impacts positively on the economy by providing financial resources needed for production by corporate institutions and the execution of capital projects by governments (Ekeocha, 2008). In other words, FPI can provide the needed resources to corporations and governments in developing nations through the financial markets for infrastructural and industrial productivity. Building infrastructures and financing business projects with the proceeds of FPI will substantially lead to economic development which in turn would result in an increase in employment, advancement in income generation, increase in gross domestic product and increase in the standard of living.

African business society has been impeded by the poor power supply, insecurity, bad roads as well as a weak judicial system. Inconsistency in government policy is prevalent in the third world nations (Narayan, 2013) and as such a business environment becomes highly uncertain. Thus these unfavorable conditions may discourage foreign investors from investing in such economies. Premise on this, a conducive business environment and strong legal system have been identified as a major attraction of foreign investment (Levine &Zervos, 1996). Irrespective of how vibrant a capital market may be, a weak legal system would not attract foreign portfolio investment.

The financial crises of the 1990s and 2000s have renewed interest in the determination of the effect of FPI on the economic development of the host country. An increase in FPI would lead to greater liquidity in the stock market resulting in the depth of the market (Levine and Zervos, 1996). In his study, Knill (2003) studied the impact of FPI on small firms and it was

ascertained that FPI bridge the gap between the financing need of firms and that which they can get from the capital market. Feldman and Kumar (1995), Shin (2000) has opined that the positive externalities of positive competitive pressure to attract FPI would increase industrial standards and regulation, resulting in stronger investor protection and thus investor's confidence. Increased liquidity in the capital market has been said to be a resultant of the rapid inflow of FPI into the economy ( LaPorta (1998), Bekaert & Harvey (2003). Increase in liquidity translates into better access to financing at a lower cost of capital which is crucial to support economic activity.

The inflow of FPI into capital market helps to alleviate financial constrain of firms (Laeven, 2003, Knill 2004). Some studies have shown FPI to have a favorable contribution in supporting the domestic stock market (Patro & Wald, 2005, Kim & Singal, 2000). Capital flow in the form of FPI acts as a catalyst to economic development and contributes towards increased wealth creation. Therefore, the efficient allocation of capital can be attributed to a free flow of FPI (Wurgler, and Love, (2003)

Despite the rationale for FPI, FPI has been seen to have a likely adverse effect on the host economy. The volatility of FPI makes it potentially dangerous for economic development (Duasa & Kassim, 2009). The volatile nature of FPI has been quoted to be a major reason behind financial distress leading to financial crises. Abrupt reversal of FPI causes panic in the financial market since such reversal is taken as a manifestation of impending financial crisis (Sula & Willet, 2006). Another perceived impact of FPI volatility on economic development is its complication of the implementation of macroeconomic stabilization policies made by policymakers. FPI volatility results in the unpredictable behavior of money supply, exchange rate level and stock market volatility ( Patro & Wald, 2005). Asset price bubbles could occur as a result of sustained periods of excessive capital inflows due to high capital mobility thus leading to inflationary pressure, while sudden withdrawals in portfolio investment

accompanied by a major correction in asset prices can pose a serious risk to the economy (Duasa & Kassim, 2009).

### 2.2.5 Concept of Stock Market

The stock market is an organized and regulated financial market where securities are bought and sold at prices governed by the forces of demand and supply. Securities traded in the stock market range from bonds, shares, debentures, derivatives et.c. The stock market is one of the important parts of the financial system which enables firms to raise capital by issuing their shares and also create an environment in which the shares are traded (Osaze, 2005). The stock market can be used to refer to the collection of markets and exchanges where issuing and trading of equities or stocks of public companies are held. Securities traded in the stock market range from fixed income securities and variable income securities and other forms of securities that cut across the fixed and variables income securities (Osaze, 2005). The stock market comprises of both the primary and secondary market. The primary market is the market where the institution, individuals, the government can raise funds by channeling savings of investors into productive ventures. The primary market is a market for the issuing of new security by institutions wanting to raise capital. On the other hand, the secondary markets are where investors can sell their securities to other investors for cash, thus reducing the risk of investment and maintaining market liquidity. Some often used Indicators of stock market performance include market capitalization which is the total value of all equity securities listed on a stock exchange. It is a function of the prevailing market price of quoted equities and the size of their issued and paid-up capital. Another often used indicator of stock market performance is the number of new issues which is the total amount of new securities raised in the capital market. It is a major indicator showing how popular the market is as a source of growth funds. This actually depends on the degree of investors' confidence and the comparative cost of raising similar funds from an alternative source in the financial system.

The stock market index measures the performance of the stock market; it is computed from the prices of selected stocks.

### 2.2.6 Stock Market Performance and Economic Development Nexus

Achieving a high level of sustainable economic development has been the aim of the government of many countries. Researchers have been spurred to propound useful theories and models in a bid to explain the phenomenon of economic development. Economists have looked at the factors affecting economic development i.e. capital, labor and technology and in recent times studies has shifted to the stock market as an agent of economic development (Sule & Momoh,2009; Ewah, Esaang & Bassey,2009; Okonkwo, et al, 2014; Osamwonyi & Kasimu, 2013). The stock market has been credited with the ability to provide a channel for the sourcing of long term finance essential for economic development (Okonkwo, et al, 2014). Chinwuba and Amos (2011) have noted that the stock market is one of the major institutions that act in propelling a prostrate economy for growth and development.

A well-functioning stock market promotes growth and profit incentives and facilitates risk management (Beck & Levine, 2002). Earlier studies like that of Pagano (1993) established three (3) basic nexus between the stock market and economic development, this nexus includes increment in the proportion of savings that is funneled to investment, change in the savings rate and hence affect investment and finally increase the efficiency of capital allocation. The stock market is essential for the long term growth in capital formation and thus becomes a driver of economic development. (Osaze, 2000). The stock market is essential for the mobilization of savings and the channeling of such savings to profitable investments. Efficient and effective distribution of scarce resources is a product of a well-functioning stock market.

The growth and development of an economy in modern times hinges on a well functioning financial sector that has sufficient capacity in accumulating domestic savings and

mobilization of external capital for productive investment ( Seyyed, 2010). One major way the stock market induces investment is by providing listed companies alien to mobilize much-needed capital and in doing so it creates a wide range of the instrument (securities) in which individuals can invest the surplus fund. The stock market acts as a lubricant that keeps spinning the wheel of the economy. The stock market efficiently allocates invested funds in addition to providing investment alternatives (Equakun, 2005). Therefore in altering the quality of these savings, the functioning of stock markets can alter the rate of economic development.

The performance of any stock market can be attributable to the political stability of the country. Civil unrest, terrorism, incessant kidnapping, dictatorship contribute to a dwindling performance of the stock market. Thus while the stock market is perceived to impact on economic development, the economy must also be free from stormy waves so as to enable the financial system to surf conveniently without capsizing. Financial deepening and the composition of aggregate financial variables are some important factors responsible for economic development (Duca, 2007). The macroeconomic stability of the economy, liquidity, transaction cost, and adequate education of the public as to the intricacies and benefits of the stock markets has been perceived to be a key determinant of market performance (Khan, 2000).

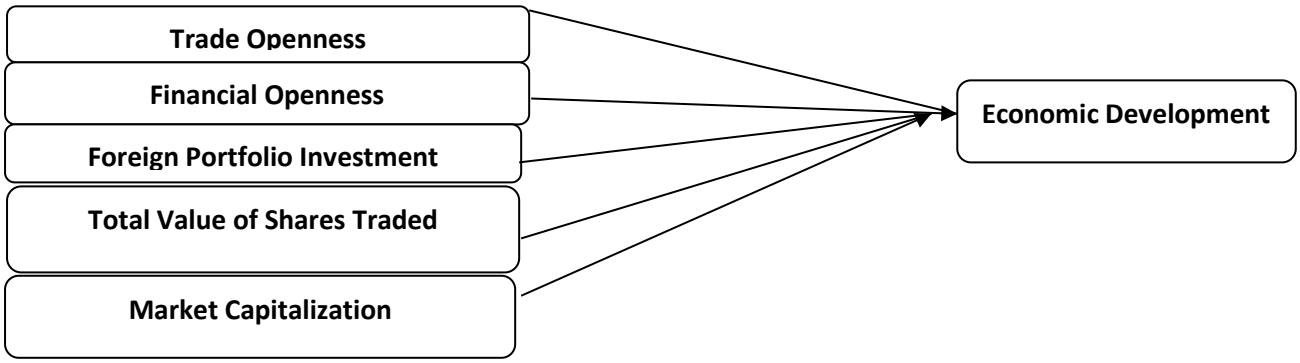
#### 2.2.6.1 Indicators of Stock Market Performance

In an attempt to assess the performance of one's capital market, certain indicators or barometers are needed to identify performances of the market. In some other cases, there may be need to compare the performance of one market against another so as to inform investors when making decisions. Certain key indicators have been accepted in the literature and are being discussed below;

a. ***Market Capitalization*****:** Market capitalization (MCAP) is a popular indicator of capital market performance. It is the overall value of all equity securities listed on a stock exchange. MCAP is a function of the prevailing market price of quoted equities and the size of their issued and paid up capital. Market capitalization is influenced by the volatility of stock prices on the market, as well as the investors' opinions as regards the worth of the securities. Investors' income and their willingness to trade in market securities affect the overall MCAP. When investors find a particular stock to be attractive, have necessary funds and are disposed to invest, MCAP would continue to grow in size. (Osazee, 2005)

b. ***Total Value Traded:*** Total value traded (TVT) refers to the value or amounts of all trades carried out on a market. It is the quantity of securities multiplied by their respective market prices. TVT is influenced by the presence of speculators, specialist i.e market makers and specialized portfolio managers in the market which helps activate trading and hence increase TVT. (Osazee, 2005)

c. ***Number of Listed Domestic Firms:*** *The number of listed domestic firms indicates the* popularity and size of a stock market. The number of listings is influenced by the stringency of the requirements for quotations and the degree of corporate aversion to quotation. (Osazee, 2005)




**Source: Authors Conceptualization (2021)**

**Fig 1: Conceptual Framework**

The figure 1 above is used to diagrammatically illustrate the relationship between the study variables. According to the conceptual literature reviewed, trade openness, financial openness, foreign portfolio investment, total value traded and market capitalization have been linked with economic development. This study thus intends to empirically test the significance effect of these variables on economic development in Nigeria.

## 2.3 Theoretical Review

In this section, we explore various theories as it relates to economic and financial development. Some of the theories to be reviewed hereunder are the endogenous growth theory, differential rate of return hypothesis, the financial liberalization theory and the portfolio diversification theory.

### 2.3.1 Endogenous Growth Theory

The endogenous growth theory was developed to augment the weakness in Solow Swan neoclassical growth model. While the Solow Swan explains the long run growth rate to be a function of exogenous factors (labor, technology, and capital) the endogenous growth theory explains the long run growth rate of an economy based on endogenous factors. This theory was propounded by P.M Romer in 1994 in his article "The Origins of Endogenous Growth". In the article, Romer argued that economic development is primarily the result of endogenous and not exogenous forces as proposed by the neoclassical economist. The endogenous growth theory (EGT) holds that economic development can be attained only with investment in human capital, innovation, and knowledge. This theory also focuses on positive externalities and spillover of a knowledge-based economy which will lead to economic development. It can thus be inferred from this theory that although labor supply and technological progress are important for economic development, nations must seek to invest in human capital.

Nations can invest in human capital by making an investment in research and development so as to foster an increase in knowledge which would lead to a better and more efficient way of doing things resulting in economic development. The transfer of knowledge from advanced economies to LDC's is another way human capital can be fostered especially through foreign direct investment where the transfer of knowledge is attained through labor training. The government must invest in education as quality knowledge transcends into technological advancement. Other implications of the endogenous theory are that policies that embrace openness, competition, change, and innovation will promote growth (Fadare, 2010).

The endogenous growth economists believe that innovation and more investments in human capital are the engines of growth, therefore government and private sector institutions are called upon to nurture innovation initiatives while offering incentives for individuals and business to be more creative. Under this theory, knowledge-based industries play a particularly important role especially telecommunication software and other high technology industries.

One major limitation of endogenous growth theory is in its inability to explain conditional convergence reported in the empirical literature (Sachs & Warner 1997). Another failure of this theory relates to the assumptions of diminishing returns to capital, it is being argued that the theory has proved to be no more successful than exogenous growth theory in explaining the income divergence between the developing and developed worlds (Oloyede, et al, 2021).

### 2.3.2 The Differential Rate of Return Hypotheses

This hypothesis explains the rationale behind the flow of capital from advanced economies to emerging economies. The hypotheses postulate that capital flow (foreign direct investment) from economies having a low rate of return to economies with a high rate of return leads to the equality of ex-ante real rates of return. The reason behind this is that economies having a low rate of return wants to equate the marginal return on capital with the marginal cost of

capital. This hypothesis assumes that investors are risk neutral, concluding that the rate of return differentials is the only reason why investment decisions are made. By assuming risk neutrality, the hypotheses imply that the investors consider the domestic and foreign investment to be perfect substitutes.

This hypothesis has been criticized and one noteworthy criticism can be found in the article presented by Lucas Robert (1990) titled "why does capital not flow from rich to poor countries?" in the article Lucas argued that capital does not always flow from developed to developing countries despite developing countries have higher rate of return and lower levels of capital per worker. Although classical economic theorist believes that capital should flow from developed economies to underdeveloped ones because of the effect of diminishing returns of capital. LDC's have a lower level of capital per worker, thus the scarcity of capital indicates that the returns related to the infusion of capital are higher in developing economies than in developed ones. Thus investors are expected to respond to such an opportunity to invest, but on the contrary little capital flows from rich countries to poor ones. This phenomenon is known as the *Lucas Paradox*. The Lucas Paradox is said to be a function of the differences in fundamentals that affect the structure of production in the economy (Technological differences, missing factors of production, Government policies and institutional structure). Secondly, Lucas Paradox is attributed to the imperfections existing in the capital market i.e. sovereign risk (indigenization policies) and asymmetric information. Although the expected return on investment might be high in many developing economies, capital does not flow there because of the high level of uncertainty associated with those expected returns.

One basic limitation in the differential rate of return hypotheses is that it is inconsistent with observations that countries experience inflows and outflows of capital simultaneously. This is

because a rate of return differentials implies capital flows into one direction only and not vice versa.

### 2.3.3 The Portfolio Diversification Hypothesis

This hypothesis hovers round the Markowitz (1952) and Tobin's (1969) portfolio diversification theory. This theory contends that differences in the rate of return are not the only factor that initiates the flow of capital, rather the need to diversify the risk. This hypothesis is valid as investors are not always risk neutral in reality. Since returns to be earned are uncorrelated in different economies, investors shift capital to relatively stable economies thereby reducing the overall risk of the investor. Because of risk aversion, the difference in the rate of return will not induce capital flow in one direction until the differentials disappear through arbitrage. Rather, capital mobility would be constrained by the desire to minimize or reduce risk through diversification.

### 2.3.4 Financial Liberalization Theory

Shaw (1973) and Mckinnon (1973) argued that economic development can only be achieved through financial liberalization policies. These policies will cause a rise in savings which will lead to an increase in investment and inadvertently produce economic development. The theory supports the accumulation role of capital market and believe the more capital is accumulated the more resources that can be made available for investment. An increased in investment on its own will lead to an increase in economic activities which produce economic development in the country. They also opined that where there is higher interest rate because of liberalization, this will bring about resources allocation efficiency, a rise in investment level and then economic development. The focus of liberalization has been to replace the severely constrained command and control system with a relatively liberalized regime with prices reflecting economic costs, along with a greater reliance on the private sector as the engine of growth.

Mckinnon and Shaw (1973) hypothesized that financial liberalization and stock market development would promote economic development through their effects on the growth rate of savings, investment, and thus economic development. They both believe that the financial market is very essential for economic development since it influences the mobilization of otherwise idle savings in the economy and converts them into useful and productive capital.

Also, Levine and Zervos (1996) opine that asides banking activities, there are other financial services that can be offered by several financial institutions/intermediaries provided there exist well-developed stock markets. These services provide an additional impetus to investment and growth than the development of banking sector only. In emphasizing this, they presents that an increase in the stock market capitalization may tend to aid an economy in mobilizing capital and diversify risks. Financial liberalization ensures that not only the banking sector is focused on but the other financial institutions receive equal or adequate attentions. This is made possible with the development or improvement in the operations of the capital market. This study is anchored on the endogenous growth theory.

## 2.4 Empirical Review

There have been plethora of studies conducted to investigate the relationship between trade liberalization, stock market performance and economic development. Hereunder, prior studies conducted are reviewed and gap identified in the literature.

### 2.4.1 Trade Openness and Economic Development Nexus

Yasmin, Jehan and Chaudhary (2006) investigated the nexus between trade liberalization and economic development in Pakistan for the periods 1959-2003. Economic development was measured using four measures of economic development (per capita GDP, income inequality, poverty and employment). The study employed the use of two stage least square (2SLS) to capture the simultaneity of the variables and result indicated that the relationship between

trade liberalization and economic development differed across measures of economic development. Specifically, employment level was affected positively, while GDP and income distribution were influenced negatively. However, no significant relationship was found between trade liberalization and poverty level.

Emagne (2017) examined the relationship between trade liberalization and economic development in Ethiopia for the period 1980-2016. The study employed the use of ECM for estimation and result indicated a positive short and long run relationship between trade liberalization and economic development. Hlalefang and Mishaelight (2018) explored the nexus between trade liberalization and economic development in Switzerland using data spanning 1990-2014. The ARDL approach to co-integration was used to test for the long-run relationship of the study variables. Findings revealed a significant relationship between trade openness and economic development in Switzerland.

Qayyum, Younas and Bashir (2018) investigated the impact of TOP on economic development in Pakistan for the period 1972-2014. The Johansen co-integration test was used to examine the long run relationship between the study variables. Result indicated a positive relationship between TOP, gross fixed capital and economic development. Other control variables like inflation and interest rate were found to have a negative impact on economic development.

Ijirshar (2019) investigated the influence of trade openness on economic development among ECOWAS countries for the periods 1975-2017. An heterogeneous dynamic panel model was deviced and the Pooled Mean Group (PMG) and Mean group (MG) estimators were used to capture the relationship between study variables. Result indicated a positive relationship between TOP and economic development in ECOWAS countries although the result was found to be mixed in the short run.

Sheikh, Malik and Masood (2020) investigated the nexus between trade openness and sustainable development in India for the period 2011-2016. The Autoregressive Distributed Lag Model (ARDL) was used for the data estimation. Findings indicated that trade openness had a negative relationship between green GDP and a positive relationship with conventional GDP. The conclusion of the study was that TOP has a negative effect on economic development in future time to come.

Malefane (2020) estimated the dynamic impact of trade openness on economic development in Bostwana for the period 1975-2014. The ARDL to bound test was used to ascertain the long-run properties of the series, while the Error Correction Model (ECM) was used to capture the short term deviation from equilibrium. Four different measures were used to proxy trade openness (trade based and composite index). The result revealed that the relationship between TOP and economic development was a function of the proxy employed. For example result indicated a positive relationship with growth when ratio of total trade to GDP, the ratio of exports to GDP, and the trade openness index were used to proxy trade openness. However, an insignificant relationship was found when the ratio of imports to GDP was used as a proxy for openness.

Duru et al (2020) examined the impact of trade liberalization on economic development in Nigeria for the period 1981-2018. The ARDL technique was used to capture the relationship between the dependents and independent variables. Empirical result showed that trade liberalization retards economic development in Nigeria. Oloyede, et al, (2021) investigated the relationship between trade openness and macroeconomic condition in ECOWAS and SADC. The study spanned 2006-2017 and empirical analysis conducted using the pooled least square, fixed and random effects. Pooled and individual estimate indicated that trade openness and economic development had a negative and insignificant relationship.

Omoke and Opuala-Charles (2021) explored the nexus between trade openness and economic development in Nigeria with the inclusion of the role of institutional quality. The study spanned 1984-2017 and three indicators of trade openness was used (total trade, import trade & export trade). The ARDL test was employed for empirical testing and result indicated a long run form relationship among the variables. Result indicated that export had a significant positive relationship with economic development, while import was negative and equally significant. However, result showed that the negative long run impact of import trade on the economy declined with improved institutional quality.

### 2.4.2 Financial Openness and Economic development Nexus

Gus (2009) investigated the nexus between financial openness and economic development components. The study was conducted on 20 developed economies and 68 emerging economies. The study used the de facto measure of financial openness. The GMM method and Least Square Dummy Variable (LSDV) were used to capture the relationships between study variables. Result indicated that de facto measures of financial openness stimulated economic development. Result also showed that FDI enhanced GDP per worker growth as well as crowd-in domestic investments for developing and emerging economies. Result from developed economies showed that FDI and FPI enhanced GDP per worker growth but only FPI stimulated capital accumulation by crowd-in effects. Oyovwi and Eshenake (2013) examined the impact of financial openness on economic development in Nigeria for the period 1970-2010. The Vector Error Correction Model (VECM) was used to test for the impact of FOP on economic development. Result indicated a positive relationship between financial openness and economic development. Bayar (2016) explored the impact of financial openness and economic freedom on economic development in transition economies in European Union for the period 1996-2012. The study employed the use of panel least square

and result indicated a long run relationship between the variables. A positive relationship between financial openness and economic development was confirmed in the study.

Akinsola and Odiambo (2017) explored the role of financial liberalization on economic development in 30 SSA economies between 1980 and 2018. The GMM estimation technique was used for data estimation. The study also ascertained if the relationship between financial liberalization and economic development will change given different income groups. Result indicated that financial liberalization was positive and significant. However, the study observed that the relationship became negative for low income countries although it was not significant. Kudaisi, Ojeyinka, and Osinubi (2021) examined the relationship between financial liberalization, remittances and economic development in Nigeria for the periods 1990-2018. The Generalized Method of Moments (GMM) was used to capture the relationship between study variables and result indicated that financial liberalization and economic development are negatively related. However, the joint effect of financial liberalization and remittances on economic development was found to be positive and significant. This implies that financial liberalization and remittances both acts as compliments in enhancing economic development.

Aremo and Arambada (2021) examined the individual and joint effects of trade openness and financial openness on economic development in sub Saharan Africa (SSA) economies for the periods 1980-2017. The population was stratified into low and middle income countries. The study employed the use of the Difference and system GMM. Findings indicated that trade openness and economic development had a significant positive relationship in low income countries. However, financial openness and the interaction between trade openness and financial openness were found to have no significant relationship with economic development although a positive direction was established. Result also indicated that

financial openness and interaction of financial openness and trade did not stimulate economic development during the period of study.

### 2.4.3 Foreign Portfolio Investment and Economic development Nexus

Duasa and Kassim (2009) examined the role of FPI in the growth of Malaysia's economy employing the Toda Yamamoto test for causality to determine the direction of causality. The result indicated that economic performance is the major pull factor in attracting FPI into the country. Baghebo and Apere (2014) investigated the determinants of FPI and its impact on long run economic development in Nigeria. The study period spanned 1986-2011 and the Johansen co-integration technique along with an ECM technique were used to capture the short and long run properties. Empirical result indicated that FPI has a positive significant relationship with economic development during the period of study.

Okafor, et al, (2016) investigated the impact of foreign capital inflows on the growth of Nigeria economy. Time series data spanning 1981-2014 was analyzed using a Toda Yamamoto approach to identify the direction of causality between foreign capital flows and economic development. Result revealed a bidirectional causality running from GDP to FDI. A unidirectional causality running from FPI to GDP was also found. Findings also indicated a unidirectional causality from foreign Aid to GDP. The study concluded by stating that a positive relationship exists between capital flows and economic development in Nigeria.

Samuel, et al, (2016) investigated the impact of FPI on stock market growth in Nigeria for the period 1986-2014. Employing cointegration, Vector Error Correction Technique, and Granger causality test, the findings indicated a long run significant impact of FPI on the growth of stock market although there was no significant causal relationship between FPI and stock market growth. Akinbobola and Ibrahim (2017) investigated the impact of foreign portfolio investment and economic development in Nigeria under democratic settings for the period 1986-2013. The dynamic VAR was employed to estimate time series data and findings

revealed that FPI was more stable during democratic periods than the military period. The result also indicates the existence of a long run relationship between FPI and growth in Nigeria. Democracy had a positive and significant effect on economic development in Nigeria. The study concluded by stating that the impact of FPI on economic development was very large and significant in the long run. Democracy itself affected economic development positively.

Akinbobola, et al, (2017) revisited their work on FPI and economic development in Nigeria using a Wald test causality for the same period. The result indicated a bi-directional causality between FPI and economic development. it also established the complementary role of domestic savings and interest rate to the growth of the economy

Acha and Essien (2018) conducted their study to examine the impact of FPI on economic development in Nigeria. The study period spanned 2005-2014 and the OLS method was used for the study. Empirical findings suggested that FPI and MCAP had a significant impact on economic development in Nigeria. Shabbir and Muhammad (2019) explored the short and long run relationship between FPI and stock price in Pakistan for the period 1984-2016. The ARDL technique was used to capture the short and long run relationship and the result indicated that FPI had a significant positive relationship with economic development.

Waliu (2020) examined the dynamics of foreign investments and economic development in Nigeria during the periods 1980-2018. The relationship between variables was estimated using the ARDL technique while other preliminary test was conducted. Foreign investment was measured using FDI and FPI along with other control variables. Empirical result indicated that foreign investments (FDI & FPI) reinforce economic development in Nigeria. Gok and Guvercin (2020) examined the role of FPI and FDI as compliments in the growth of 26 sub Sahara Africa economies within the periods 1990-2016. The study employed an unrestricted VAR to combat endogeneity issues. Result confirmed a positive relationship

between FDI and economic development as well as a significant relationship between FPI and economic development.

Etale and Sawyerr (2020) explored the nexus between foreign investment inflows on economic development for the period 2001—2018. Foreign direct investment and foreign portfolio investment wee used to proxy foreign investment. The multiple regression under the OLS framework was used for data analysis and result indicated that FDI and FPI both had a significant positive relationship with economic development during the period of study. Adofu and Adegoriola (2020) examined the relationship between foreign portfolio investment and economic development in Nigeria within 1986-2018. The ARDL technique and Granger causality test were devised for the study and empirical result indicated that lagged and current FPI had an insignificant negative relationship with economic development. Additionally, uni-directional causation was found to flow from GDP to FPI during the period of study.

Nwafor (2020) explored the relationship between foreign portfolio and human capital development in Nigeria for the period 1987-2019. The OLS regression technique was used for the study and findings indicates that FPI in various equity instruments had a positive and significant impact on human capital development during their period of study.

### 2.4.4 Stock Market Performance and Economic development Nexus

Osamwonyi and Kasimu (2013) analyzed the impact of the stock market on economic development in SSA with peculiarity to Ghana, Kenya, and Nigeria. The Granger causality test was employed to test for the direction of causality between the stock market and economic development while the panel regression technique was used to test for level relationship of the variables. Findings indicated no causal relationship between stock market development and economic development in Nigeria and Ghana, while bi-directional causation between the stock market and economic development was evidenced in Kenya. The pooled regression revealed that stock market development and economic development have a

weak relationship indicating that the pooled data for the stock market of the three (3) economies do not have a significant effect on the combined economies. The study recommended that policymakers and regulatory bodies should formulate and implement policies that will attract investors and avail the real sector of the economy the much-needed fund for production and encourage listing of companies that contributes largely to GDP in the national stock exchange.

Wild and Lebdaoui (2014) explored the relationship between stock market performance and economic development in Morocco for the period 2000-2013. The result indicated stock market development and economic development had a long run relationship, while a unidirectional causality was established running from Morocco All share Index, Traded Volume and stock market index to Real GDP. The study suggested the presence of a threshold level before a positive interaction between the real and financial sector takes effect. Bayar, et al, (2014) looked at the effect of stock market development on economic development in the context of Turkey economy. The study employed Johansen Cointegration and Granger causality test. Meanwhile, findings indicate that a long run relationship exists between MCAP, the total value of stocks traded, turnover ratio of stock trading. The causality test indicated a unidirectional causality from stock market indicators to economic development. Niranjala (2015) carried out an investigation to ascertain the relationship between stock market development and economic development in Sri Lanka. Granger causality test was employed to analyze time series data and findings revealed that stock market performance played a major role in Sri Lanka for the period 1990-2013.

Ologunwa and Sadibo (2016) empirically ascertained the role of capital market development on economic development in Nigeria using time series data. The study employed Autoregressive Distributed Lag (ARDL) technique and the result indicated that capital market indicators (value ratio, turnover ratio) were both significant and positive drivers of

economic development in Nigeria and the stock market was seen to affect economic development through mobilization. The study recommended that the stock market be made attractive to foreign economies.

Uchenna, et al, (2016) sought to determine the impact of capital market development on the growth of the Nigeria economy. Using time series data spanning 1981-2014, the VECM was used in showing the short and long run dynamics of the model. The result indicated that in the short run, turnover ratio and MCAP had a significant negative effect on GDP. The study identified a negative effect of inflation on GDP although not statistically significant while the traded ratio was inversely related to GDP. The Granger causality test indicated a unidirectional causality running from MCAP, value traded ratio, Turnover ratio to GDP. The Paper concluded by establishing a nexus between stock market development and economic development in Nigeria.

Popoola, Ejemojovwi, et al, (2017) examined the relationship between stock market and economic development in Nigeria. The study spanned 1980-2014 and empirical analysis conducted using OLS and Granger causality techniques. Stock market performance was measured using MCAP, ASI and total value traded (TVT). Result indicated that all share index had a significant negative relationship with economic development while TVT was found to be positive and statistically significant. However, no causation was found between stock market performance and economic development during the period of study.

Ebun, et al, (2018) analyzed the impact of stock market development on economic development in Nigeria for period Spanning 1985-2014. MCAP, market turnover ratio was used as a proxy for stock market development while GDP proxy economic development. The result suggested that stock market development is not a strong determinant of economic development in Nigeria. The study recommended that policymakers should encourage the

flow of FDI so as to ensure improvement in the Market Capitalization. It also encouraged small and medium entrepreneurs to access the stock market for funds

Radikoko, et al, (2019) investigated the influence of stock market performance on economic development in Botswana for the period 2006-2016. Stock market performance was measured using market size, value of shares traded and Turnover ratio. The study variables were estimated using the ARDL framework and result indicated that MCAP and turnover ratio were negatively related to economic development. However, value traded was found to have a strong positive relationship with economic development. Okoh and Inua (2019) evaluated the linkage between stock market indicators and economic development in Nigeria for the periods 1987-2016. Stock market was proxied using MCAP, new issues, VT and listed securities. The multiple regressions were used and findings indicated that stock market performance had a significant positive relationship with economic development.

Kapaya (2020) examined the relationship between stock market development and economic development in Tanzania using the ARDL model. The study period spanned 2001-2019 and empirical result indicated that stock market development have both negative and positive causality for both short-run dynamics and long-run relationship with economic development. The results also show a unidirectional causality flow from stock market development to economic development and finds partial causality flow from economic development to stock market development, as represented by stock market turnover which proxied liquidity.

Umar and Shittu (2020) examined the nexus between stock market performance and economic development in Nigeria. The study period spanned 1985-2018 and empirical analysis was done using the VECM to estimate the relationship between stock market and economic development. Stock market was measured using MCAP, Equity and Value traded while empirical result found a long run relationship between stock market and economic development. Ashamu and Soyebo (2020) explored the relationship between stock market

and economic development in Nigeria using the ECM technique to estimate time series data that spanned 1985-2017. Stock market was proxied using MCAP, ASI, volume of trading (VT) and number of deals. Result indicated a significant positive relationship between all market indicators and economic development with the exception of MCAP which was found to be insignificant.

Adesanya, et al, (2020) investigated the relationship between stock exchange market activities and economic development in Nigeria for the periods 1987-2017. The study used the OLS technique to capture the relationship between study variables. Stock market activities were proxied using market indicators like MCAP, ASI and TVT. Empirical result indicated that MCAP, ASI and TVT all had a significant positive relationship with economic development during the period of their study. Udo, et al, (2021) studied the relationship between stock market and economic development in Nigeria. The study spanned 1983-2016 and the ARDL model was used for data analysis. Variables used to proxy stock market were Market Capitalization, All Share Index, Number of Listed Securities and the number of listed companies. Empirical findings revealed a significant relationship between listed securities, all share index and economic development.

**Summary of Empirical Literature**

| S/n | Author(s) | Study Period | Country | Methodology | Findings |
|---|---|---|---|---|---|
| **Studies on Trade openness and economic development** | | | | | |
| 1 | Yasmin, et al, (2006) | 1959-2003 | Pakistan | Two stage least square (2SLS) | Findings revealed a mixed result across measures of financial development. |
| 2 | Emagne (2017) | 1980-2016 | Ethiopia | ECM | Result findings indicated a positive short and long run relationship between trade liberalization and economic development. |
| 3 | Hlalefang and Mishaelight (2018) | 1990-2014 | Switzerland | ARDL | Findings revealed a significant relationship between trade openness and economic development in |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | Switzerland. |
| 4 | Qayyum, et al, (2018) | 1972-2014 | Pakistan | Co-Integration technique | Result indicated a positive relationship between TOP and economic development. |
| 5 | Ijirshar (2019) | 1975-2017 | ECOWAS members country | Pooled Mean Group (PMG) and Mean group (MG) estimators | Result indicated a positive relationship between TOP and economic development in ECOWAS countries. |
| 6 | Sheikh, et al, (2020) | 2011-2016 | India | Autoregressive Distributed Lag Model (ARDL) | Findings indicated that trade openness had a negative relationship between green GDP and a positive relationship with conventional GDP. |
| 7 | Malefane (2020) | 1975-2014 | Botswana | ARDL and ECM | The result revealed that the relationship between TOP and economic development was a function of the proxy employed. |
| 8 | Duru et al (2020) | 1981-2018 | Nigeria | ARDL | Empirical result showed that trade liberalization retards economic development in Nigeria. |
| 9 | Oloyede, et al, (2021) | 2006-2017 | Selected ECOWAS and SADC economies | Panel least square | Pooled and individual estimate indicated that trade openness and economic development had a negative and insignificant relationship. |
| 10 | Omoke, et al, (2021 | 1984-2017 | Nigeria | ARDL | Result indicated that export had a significant positive relationship with economic development, |
| **Studies on Financial Openness** | | | | | |
| 11 | Gus (2009) | | 20 developed economies and 68 emerging economies. | GMM method and Least Square Dummy Variable (LSDV | Result indicated that de facto measures of financial openness stimulated economic development. |
| 12 | Oyovwi and Eshenake (2013) | 1970-2010 | Nigeria | The Vector Error Correction Model (VECM) | Result indicated a positive relationship between financial openness and economic development. |
| 13 | Bayar (2016) | 1996-2012 | Transition economies in European Union | PLS | A positive relationship between financial openness and economic development was confirmed in the study |
| 14 | Akinsola and Odiambo | 1980 - 2018 | 30 SSA economies | GMM | Result indicated that financial liberalization was |

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|---|---|---|---|---|---|
| | (2017) | | | | positive and significant. However, the study observed that the relationship became negative for low income countries although it was not significant. |
| 15 | Kudaisi,et al, (2021) | 1990-2018 | Nigeria | The Generalized Method of Moments (GMM) | Result indicated that financial liberalization and economic development are negatively related. However, the joint effect of financial liberalization and remittances on economic development was found to be positive and significant |
| 16 | Aremo and Arambada (2021) | 1980-2017 | Selected economies in SSA | Difference GMM | Financial openness and the interaction between trade openness and financial openness were found to have no significant relationship with economic development although a positive direction was established. |
| **Studies on FPI and economic development** | | | | | |
| 17 | Duasa and Kassim (2009) | 1990-2006 | Malaysia | Toda Yamamoto test for causality | The result indicated that economic performance is the major pull factor in attracting FPI into the country. |
| 18 | Baghebo and Apere (2014) | 1986-2011 | Nigeria | ECM | Empirical result indicated that FPI has a positive significant relationship with economic development during the period of study. |
| 19 | Okafor, (2016) | 1981-2014 | Nigeria | Toda Yamamoto | Result revealed a bidirectional causality running from GDP to FDI. A unidirectional causality running from FPI to GDP was also found. Findings also indicated a unidirectional causality from foreign Aid to GDP. |
| 20 | Samuel, et al, (2016) | 1986-2014. | Nigeria | VECM, Granger causality Test | Findings indicated a long run significant impact of FPI on the growth of stock market. |
| 21 | Akinbobola and Ibrahim s(2017) | 1986-2013 | Nigeria | VAR | The result indicates the existence of a long run relationship between FPI and growth in Nigeria. |
| 23 | Akinbobola, et al, (2017) | 1986-2013 | Nigeria | Wald test causality | The result indicated a bi-directional causality between |

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|---|---|---|---|---|---|
| | | | | | FPI and economic development. |
| 24 | Acha and Essien (2018) | 2005-2014 | Nigeria | OLS | Empirical findings suggested that FPI and MCAP had a significant impact on economic development in Nigeria.. |
| 25 | Shabbir and Muhammad (2019) | 1984-2016 | Pakistan | ARDL | Result indicated that FPI had a significant positive relationship with economic development |
| 26 | Waliu (2020) | 1980-2018 | Nigeria | ARDL | Empirical result indicated that foreign investments (FDI & FPI) reinforce economic development in Nigeria. |
| 27 | Gok and Guvercin (2020) | 1990-2016 | 26 sub Sahara Economies | VAR | Result confirmed a positive relationship between FPI and economic development as well as a significant. |
| 28 | Etale and Sawyerr (2020) | 2001—2018. | Nigeria | OLS | Result indicated that FDI and FPI both had a significant positive relationship with economic development during the period of study. |
| 29 | Adofu and Adegoriola (2020) | 1986-2018 | Nigeria | ARDL technique and Granger causality test | Result indicated that lagged and current FPI had an insignificant negative relationship with economic development. |
| 30 | Nwafor (2020) | 1987-2019 | Nigeria | OLS | The OLS regression technique was used for the study and findings indicates that FPI in various equity instruments had a positive and significant impact on human capital development during their period of study |
| | **Studies on Stock market performance and economic development** | | | | |
| 31 | Osamwonyi and Kasimu (2013) | 1989-2009 | Ghana, Kenya and Nigeria | Granger causality test and OLS | Result revealed that stock market development and economic development have a weak relationship indicating that the pooled data for the stock market of the three (3) economies do not have a significant effect on the combined economies. |
| 32 | Wild and Lebdaoui (2014 | 2000-2013 | Morocco | OLS | The result indicated stock market development and economic development had a long run relationship. |

| | | | | | |
|---|---|---|---|---|---|
| 33 | Bayar, et al, (2014) | 1999-2014 | Turkey | Johansen Co-integration and Granger causality test | Findings indicate that a long run relationship exists between MCAP, the total value of stocks traded, turnover ratio of stock trading and economic development. The causality test indicated a unidirectional causality from stock market indicators to economic development. |
| 34 | Niranjala (2015) | 1990-2013 | Sri Lanka | Granger causality test | Findings revealed that stock market performance played a major role in Sri Lanka. |
| 35 | Ologunwa and Sadibo (2016) | 2000-2015 | Nigeria | ARDL | the result indicated that capital market indicators were significant and positive drivers of economic development in Nigeria. |
| 36 | Uchenna, et al, (2016) | 1981-2014 | Nigeria | VECM & Granger Causality | The result indicated that in the short run, turnover ratio and MCAP had a significant negative effect on GDP. The Granger causality test indicated a unidirectional causality running from MCAP, value traded ratio, Turnover ratio to GDP. |
| 37 | Popoola, et al, (2017) | 1980-2014 | Nigeria | OLS and Granger causality techniques | Result indicated that all share index had a significant negative relationship with economic development while TVT was found to be positive and statistically significant. |
| 38 | Ebun, Olasuyi, Micheal (2018) | 1985-2014 | Nigeria | OLS | The result suggested that stock market development is not a strong determinant of economic development in Nigeria. |
| 39 | Radikoko, Mutobo and Mphoeng (2019) | 2006-2016 | Botswana | ARDL | Result indicated that MCAP and turnover ratio were negatively related to economic development. However, value traded was found to have a strong positive relationship with economic development. |
| 40 | Okoh and Inua (2019) | 1987-2016 | Nigeria | OLS | Findings indicated that stock market performance had a significant positive |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | relationship with economic development. |
| 41 | Kapaya (2020) | 2001-2019 | Tanzania | ARDL | Result indicated that stock market development have both negative and positive causality for both short-run dynamics and long-run relationship with economic development. |
| 42 | Umar and Shittu (2020) | 1985-2018 | Nigeria | VECM | Empirical result found a long run relationship between stock market and economic development. |
| 43 | Ashamu and Soyebo (2020) | 1985-2017 | Nigeria | ECM | Result indicated a significant positive relationship between all market indicators and economic development with the exception of MCAP which was found to be insignificant. |
| 44 | Adesanya, et al, (2020) | 1987-2017 | Nigeria | OLS | Result indicated that MCAP, ASI and TVT all had a significant positive relationship with economic development. |
| 45 | Udo, et al, (2021) | 1983-2016 | Nigeria | ARDL | Empirical findings revealed a significant relationship between listed securities, all share index and economic development. |

**Source: Authors compilation (2021)**

## 2.5 Gap in Empirical Literature

As highlighted previously, lots of empirical studies have been conducted to examine the linkage between trade liberalization and economic development as well as stock market performance and economic development. However, there appears to be paucity in empirical evidence as to the nexus between these variables (trade liberalization, stock market performance) and economic development. Although the study of Yasmin, et al, (2006) examined the impact of trade openness on economic development, their study was outside the Nigeria context with study period ending in 2003. This therefore necessitates an empirical investigation as to the impact of trade openness on economic development in Nigeria. To the

best of the reseacher's knowledge, no known study has analyzed the implication of the joint effect of trade liberalization and stock market performance on economic development in Nigeria. This study intends to close that gap by investigating the effect of trade liberalization, stock market performance and economic development in Nigeria. A review of the empirical literature makes clear the need to investigate the effect of trade liberalization, stock market performance and economic development in Nigeria using current time series data.

# CHAPTER THREE

# METHODOLOGY

## 3.1 Introduction

This chapter presents the methodology of the study, both procedure and the analytical techniques that the research engages in carrying out the investigation on the impact of trade and capital market variables on the Nigeria economy. This research adopts the causal research design which is a type of ex post factor research design. Causal research design is aimed at analyzing the relationship and patterns between two variables. In specific term, the research design, population and sample of the study, model specification and measurement of variables and method of data analyses are presented.

## 3.2 Research Design

This research adopts the causal research design which is a type of ex post factor research design. Causal research design is aimed at analyzing the relationship and patterns between two variables. This design is therefore chosen as it especially suits our study as it intends to examine the effect of one variable on another. As a time series data, the relative impact of each independent variable on the response variable can be examined overtime.

## 3.3 Population and Sample of the Study

This study adopts the census sampling technique where the population and sample of the study is the Nigeria economy. The Nigeria economy is chosen as a result of the high inflow of foreign capital as participation in international trade (Udo, et al, 2021). The Nigeria stock market being the largest in West Africa also makes it the focus of this study.

### 3.4 Source of Data

Time series data spanning 34years (1987-2020) were sourced from the World Bank Development Database (WBD). This time frame is chosen to capture the various trade policies enacted by the government between 1987- 2020. Time series data on trade openness, financial openness, foreign portfolio investment and total value of shares traded were sourced from the WBD.

### 3.5 Theoretical Framework

The Endogenous growth model propounded by P.M Romer in 1994 serves as a foundation of this study. The endogenous growth model uses the aggregate production function in a Cobb Douglas form, given as

$$Y_{it=} K_{it}^{\alpha},\ L_{it}^{\beta} e^{\varepsilon it} \qquad (1)$$

Where

$Y_{it}$ = Economy output measured by GDP at Time t

$K_{it}$ = Level of capital stock

$L_{it}$ = Stock of labor at time t

I = the country

e= base of natural log.

$K_{it}$ can be expressed as an embodiment of several other inputs that are also directly responsible to changes in output growth even when the traditional inputs are unchanged. Thus, one of such possible inputs is trade openness, financial openness, stock market activities and foreign portfolio investment. We thus have;

$$k_{it} = F(TOP, FOP, FPI, TVL, MCAP, FDI) \quad (2)$$

Where

TOP = Trade openness

FOP = Financial Openness

FPI= Foreign portfolio Investment

TVT = Total value of stocks traded

MCAP = Market capitalization

Substituting Equation 2 into 1 we obtain

$$Y_{it} = A_{it}^{\alpha} + L_{it}^{\emptyset} + TOP^{\beta} + FOP^{\mu} + FPI^{\sigma} + TVL^{\gamma} + MCAP^{\rho} + e^{e_{it}} \quad (3)$$

Where $, \emptyset, \beta, \mu, \sigma, \uparrow \rho\gamma$, are constant elasticity coefficients of output relative to A, L, TOP, FOP, FPI, TVL and MCAP.

Taking the natural log of equation (3) gives

$$lnY_{it} = \alpha lnK_{it} + \emptyset lnL_{it} + \beta lnTOP_{it} + \mu lnFOP_{it} + \sigma lnFPI_{it} + \gamma lnTVL_{it} + \rho lnMCAP_{it} + \varepsilon_{it} \quad (4)$$

### 3.6 Model Specification

To capture the relationship between the study variables, this study adapts the models of Omoke & Opuala-Charles (2021) and Popoola et al (2017) whose studies modeled economic growth as a function of trade openness and stock market performance respectively. Specifically, their models are specified below;

$$GDP = F(TOP, IQ, CD, LO, CS) \quad (5)$$

$Omoke, et\ al\ (2021)$

$$GDP = F(GCF, MCAP, ASI, VTR) \quad (6)$$

However, this study takes a departure by examining the joint impact of trade liberalization and stock market performance on economic development. Thus, the functional model of this study takes the following form;

$$PCI = f(TOP, FOP, FPI, TVL, MCAP) (5)$$

The econometric form of equation 5 & 6 is given as;

$$PCI = \beta_0 + \beta_1 TOP_t + \beta_2 FOP_t + \beta_3 FPI_t + \beta_4 TVL_t + \beta_5 MCAP_t + \beta_6 TOP_t * TVL + \beta_7 FOP_t * FPI + \beta_8 TOP_t * MCAP + \varepsilon_t \quad (6)$$

Where;

PCI = per capita income

TOP = Trade openness

FOP = Financial Openness

FPI = Foreign portfolio investment

TVL = Total value of stocks traded

MCAP = Market capitalization

TOP*TVL = Interaction term 1

FOP*FPI = Interaction term 2

TOP*MCAP = Interaction term 3

$\beta_1 - \beta_8 =$ Beta coefficient

$\varepsilon_t$= Error term

### *Apriori* Expectations

From literature, trade openness is expected to have a positive relationship with measures of economic development (Omoke et al, 2021; Yasmin et al, 2006). Similarly, financial openness and foreign portfolio investment are also expected to have a positive relationship with economic development (Adofu & Adegoriola, 2020; Aremo & Arambada, 2021). A positive relationship is expected between stock market performance and economic development (Ashamu & Soyebo, 2020). The interaction terms are expected to be positive and significant. The apriori expectation can be mathematically expressed as;

$\beta_1 - \beta_8 > 0$

### 3.7 Measurement of Variables

| S/N | Variable | Abrevv | Measurement | Source |
|---|---|---|---|---|
| 1 | Per Capita Income | PCI | $Nationl\ Income/Population$ | Kudaisi et al (2006) |
| 2 | Trade Openness | TOP | Sum of total imports and exports divided by GDP | Sheikh et al, (2020) |
| 3 | Financial Openness | FOP | Sum of foreign direct investment and foreign portfolio investment divided by GDP | Bayar (2016) |
| 4 | Foreign Portfolio Investment | FPI | The total net inflow of foreign portfolio investment for the period | Okafor, Ugochukwu, and Chijindu (2016) |
| 5 | Total Value of Shares traded | TVT | Total value of shares traded, both by domestic and foreign firms multiplied by their respective matching prices. | Popoola et al, (2017) |
| 6 | Market Capitalization | MCAP | It is calculated by multiplying the total number of shares outstanding of domestic listed companies by the total matching prices of shares. The natural log of MCAP would be employed for the study. | |

**Source: Authors compilation (2021)**

## 3.8 Method of Data Analysis

This study will employ both statistical and econometric methods to carry out the analysis. This is further described below:

### 3.8.1 Descriptive Statistics

The analysis of the study starts with the preliminary analyses of descriptive statistics, in order to identify the individual characteristics of the variables under consideration. These tests showed the individual characteristics of the variables employed, the mean, median, kurtosis, skewness and other relevant properties of the variables will be examined. The study did not use correlation analysis.

### 3.8.2 Unit Root Test:

Most macroeconomic time series data are trended and in most cases non stationary, thus using a non-stationary time series results in spurious regression leading to incorrect conclusions. Therefore, to determine the stationarity of the series the data were subjected to unit root tests to determine the presence or absence of unit root. The series is said to have a unit root when it exhibits white noise, thus one would need to difference the series to make it a stationary one (free from unit root).

### 3.8.3 Test for Co-Integration

After subjecting the time series data to unit root tests to determine the presence/absence of unit root, and duly differenced, the variables where tested to ascertain the existence of a long run relationship among them. The Johansen Julius test for co-integration was employed to test for such long run relationship. The Johansen Julius (JJ) procedure is preferred over the Engle-Granger test for co integration because the JJ test allows for more than one co integrating relationship especially as this study used fully modified OLS

### 3.8.4 Fully Modified Ordinary Least Square (FMOLS)

The study adopts the Fully Modified Ordinary Least Square (FMOLS) estimation technique. This technique is better than Ordinary Least Square (OLS) due to a number of reasons. First, OLS estimates are super-consistent, but the t-statistic obtained without stationary are only approximately normal. The OLS estimates may suffer from Heteroskedasticity and autocorrelation since the omitted dynamics are captured by the residual so that inference using the normal tables will not be valid - even asymptotically. Therefore, “t” statistics for the estimates OLS estimated are useless.

# CHAPTER FOUR

# DATA PRESENTATION AND ANALYSIS

## 4.1 Introduction

In this chapter, we perform the statistical analysis that forms the basis for the empirical evaluation of the study. Various models specified in the previous chapter are estimated and interpreted. This chapter begins by first carrying out preliminary tests to check for the time series properties and characteristics of the data set. This is followed by estimating the relationship between trade liberalization, stock market performance and economic development.

## 4.2 Data Presentation

Economic and financial data spanning 34years (1987- 2020) were sourced from the World Bank Development indicators Database. See appendix A for the data set used in the study

## 4.3. Data Analysis

### 4.3.1 Descriptive Statistics

This study considered the Summary statistics as an important procedure to be carried out before any formal estimation can be made. This study would need to test for the normality of data set used in the study. The descriptive statistics are employed to determine if the data set forms a normal distribution curve. The standard deviations, skewness, kurtosis and JarquBera give a quick overview of the normality distribution of data set.

This section is devoted to the presentation of summary statistics as an important prelude to the presentation of the estimation results of the econometric data analysis.

**Table 4.1 Descriptive Statistics**

| Variables | Mean | Std.Dev | Maximum | Minimum | Skewness | Kurtosis | P-value (JaqueBera) |
|---|---|---|---|---|---|---|---|
| **FOP** | 0.02 | 0.01 | 0.05 | 0.001 | 0.76 | 2.86 | 0.18 |
| **FPI** | 19.74 | 2.25 | 23.43 | 2.25 | -0.42 | 2.33 | 0.43 |
| **MCAP** | 7.59 | 4.64 | 10.92 | 4.64 | -1.03 | 2.11 | 0.02 |
| **PCI** | 2.79 | 0.60 | 3.39 | 0.60 | -2.94 | 14.79 | 0.00 |
| **TOP** | 35.71 | 9.40 | 53.27 | 16.94 | -0.10 | 2.422 | 0.76 |
| **TVL** | 485.5 | 597.08 | 2350 | 0.225 | 1.20 | 3.99 | 0.00 |

**Source: Authors computation (2021) from E-views 10.0**

**TOP × TVL, FOP× FPI, TOP × MCAP**

The background characteristics of the data are presented on table 4.1. Result shows that the mean value of PCI is 2.79 with a low variability as indicated by the standard deviation (0.60). This is further buttressed by the wide margin between the maximum and minimum value of 3.39 and 0.60 respectively. The series (PCI) is observed to be negatively skewed (-2.94) indicating that the series is tailed to the left and has more values lower than its mean. The kurtosis shows that PCI has an excess kurtosis of 14.79 which indicates that it has a very peak curve and is platykurtic in behavior. The JaqueBera test shows that PCI is not normally distributed since the null hypothesis of 'normal distribution IS rejected". Financial openness (FOP) is observed to record an average of 0.02 with a low standard deviation which indicates that FOP was relatively stable during the period of study. The maximum value was 0.05 and the minimum 0.001. FOP is observed to be positively skewed thus indicating that the series is skewed to the right with higher values. FOP is also observed to be platykurtic in behavior (positive kurtosis) indicating that it has a peaked curve. FOP is observed to be normally distributed since the null hypothesis of 'normal distribution' could not be rejected.

Foreign portfolio inflow (FPI) is observed to have a mean of 19.7 during the period of study and a standard deviation of 2.25. This indicated that there was not much volatility in FPI

during the period of study. The maximum FPI recorded is observed to be 23.43 (in log) and the minimum 2.25 (in log). FPI is found to be negatively skewed (-0.42) showing that it is heavily tailed to the left with a peak curve (platykurtic). Again, FPI is observed to have passed the normality test, as the null hypothesis of 'normal distribution' could not be rejected for FPI series. Market capitalization (MCAP) is observed to have an average of 7.59 with a standard deviation of 4.64. The maximum value is 10.92 while the minimum is 4.64. Findings show that MCAP is negatively skewed (-1.03) and has a positive kurtosis (2.11). MCAP is observed to not be normal, as the normality test could not be validated. Finally, trade openness (TOP) is observed to be 35.71 on the average while the standard deviation was 9.40. The maximum value recorded was 53.27 while the minimum was 9.40. TOP is skewed to the left (negative skewness) and has a peaked curve (positive kurtosis).TOP is found to be normally distributed as the null hypothesis could not be rejected.

Total Value Traded (TVL) is observed to have an average of 485.57 with a standard deviation of 597.08. This shows that there was a high variation in TVL during the period of study. The maximum value recorded was 2350 (in billions) while the minimum was 0.225. This large difference between the maximum and minimum value shows that there was significant variations in TVL. The series (TVL) is observed to be positive indicating that TVL is skewed to the right while it is also observed that TVL is has a peaked curve as indicated by the kurtosis. The Jaque Berra shows that the series is not normally distributed as it could not pass the test of normality given that its p-value is lower than 0.05.

### 4.3.2 Unit Root Test

Premise on ascertaining the stationarity, characteristics of the data set, a unit root test is conducted to ascertain the stationarity of variables. As indicated in previous chapter, the ADF test is be employed. The stationarity of variables are checked at levels and where found to be non-stationary, they are subjected to first difference.

**Table 4.2 Unit Root Test Result**

| Variables | ADF @ Levels | ADF @ 1st Diff | Remark |
|---|---|---|---|
| **FOP** | -1.97<br>(0.09) | -7.80<br>(0.00) | Stationary |
| **FPI** | -2.10<br>(0.06) | -5.76<br>(0.00) | Stationary |
| **MCAP** | -2.77<br>(0.7) | -8.30<br>(0.00) | Stationary |
| **PCI** | -2.12<br>(0.69) | -4.07<br>(0.00) | Stationary |
| **TOP** | -1.25<br>(0.19) | -6.82<br>(0.00) | Stationary |
| **TVL** | -2.08<br>(0.25) | -5.62<br>(0.00) | Stationary |

**Source: Data E-views 10.0 results output (2021)**

The unit root result is presented in table 4.2. All series were subjected to the ADF test and result indicates that all series are found to be non stationary at levels. Therefore, all non-stationary series were therefore subjected to their first difference and result indicates that all series were found to attain stationarity after differencing. Therefore, since our series are found to be stationary after differencing, this study proceeds to ascertain the long run properties of the series using the Johansen co-integration test.

### 4.3.3 Co-Integration Test

To test of long-run relationship between variables was undertaken using the Johansen Julius test for co-integration. Two test statistics are used to capture the long run properties, namely the trace and maximum Eigen value statistics while the null hypotheses of no co-integration

is tested under the 5% level of significance. The null hypotheses are rejected until there is no statistical proof to reject and thus accept the alternate hypotheses. The test result is given in table 4.3.

**Table 4.3 Co-integration Test Result**

| Trace Statistics | | | Maximum Eigen Value | | |
|---|---|---|---|---|---|
| **Null Hypotheses** | **Trace statistics** | **Critical Value** | **Null Hypotheses** | **Eigen statistics** | **Critical Value** |
| r = 0* | 135.33 | 95.75 | r = 0* | 49.67 | 40.07 |
| r < 1* | 85.65 | 69.81 | r < 1* | 35.19 | 33.87 |
| r < 2* | 50.45 | 47.85 | r < 2 | 24.15 | 27.58 |
| r < 3 | 26.30 | 29.79 | r < 3 | 17.82 | 21.13 |
| r < 4 | 8.47 | 15.49 | r < 4 | 7.69 | 14.26 |
| r < 5 | 0.78 | 3.84 | r < 5 | 0.58 | 2.84 |
| r < 6 | 0.28 | 4.34 | r < 6 | 0.31 | 1.38 |

**Source: Output results from E-views 10.0.**

The co-integration test result is presented in table 4.3 above. The trace statistics and maximum Eigen value is used as the test statistics. From the panel of Trace statistics, result indicates that the null hypothesis of no co-integration was rejected at the 5% level of significance. The null hypothesis of at most two co-integrating equation was also rejected while the null hypothesis of at most three co-integrating equation could not be rejected. Therefore, we can only conclude that there exist three co-integrating vectors in the equation. The Max Eigen value also shows similar trend as the null hypothesis of no co-integration is also found to be rejected at the 5% level of significance. The Eigen statistics also confirms the existence of at least two co-integrating equations. This result therefore reveals the presence of a long run relationship in the model.

## 4.4 Regression Analysis

This section is concerned with establishing the nexus between trade liberalization, stock market performance and economic development in Nigeria. The Fully Modified Ordinary Least Square method (FMOLS) is employed for data analysis. Diagnostic results are interpreting individual relationship between variables of the study.

### Table 4.4 Regression Summary

| Method: Fully Modified Least Squares (FMOLS | | | |
|---|---|---|---|
| **Variable** | **Beta Coefficient** | **t-statistic** | **P.value** |
| **FOP** | 0.71 | 4.63 | 0.00 |
| **LNFPI** | 0.24 | 3.97 | 0.00 |
| **LNMCAP** | 0.09 | 4.62 | 0.00 |
| **TOP** | -0.00 | -0.06 | 0.94 |
| **TVL** | 0.12 | 3.12 | 0.00 |
| **FOP*LNFPI** | 2.66 | 3.08 | 0.00 |
| **TOP*LNMCAP** | -0.00 | -0.38 | 0.69 |
| **TOP*TVL** | 0.01 | 3.32 | 0.00 |
| C | 1.94 | 1.53 | 0.13 |
| *R-square* | 0.79 | | |
| *Ajusted.R.square* | 0.75 | | |

**Source: Output results from E-views 10.0**

The regression result is presented on table 4.4. The co-efficient of determination indicates that the factors under study (FOP, FPI, MCAP, TOP, FOP*FPI, TOP*MCAP, TOP*TVL) jointly explains 79% of changes in PCI. The explanatory power of the model is quite high signifying that the variables under study are able to explain changes in the dependent variables. The adjusted R-square is also high even after accounting for the degree of freedom. This further confirms that the model is accurately specified.

On the relationships between study variables, interesting transmission patterns are observed. FOP is observed to have a positive and significant relationship with PCI. A unit change in FOP will cause a 0.71 changes in PCI and the relationship is significant at the 1% level (0.00).s Foreign portfolio investment is equally observed to have a positive relationship with PCI. A unit change in FPI will cause a 0.24 fluctuation in PCI. This relationship is found to

be significant at the 1% level (0.00). Similar pattern is found between MCAP and PCI in the regression result in table 4.4. The coefficient of MCAP is observed to be positive and significant at the 1% level. Therefore, a unit change in MCAP will trigger 0.09 changes in PCI *ceteris paribus*. The coefficient of TOP is observed to be negative and not significant. The direction of the effect of TOP on PCI is observed to be an inverse relationship. Finally, the coefficient of TVL is observed to be positive and significant at the 1% level. This implies that a unit change in TVL will lead to a change in economic development (PCI) by 12%*ceteris paribus.*

The interaction between FOP and FPI (FOP*FPI) is observed to be significant and positive. This indicates that there is a multiplicative effect of the dual (FOP and FPI) on PCI. The relationship is also reinforcing as indicated by the positivity of the coefficient. However, the interaction between TOP and MCAP (TOP*MCAP) is observed to be negative and not significant. The non significance of this interaction suggests that TOP and MCAP jointly has no impact on PCI during the period of study. However, it is also observable that the relationship is negative suggesting that the combination of these two negates PCI. On the contrary, the interaction between TOP and TVL is observed to be positive and significant. This indicates that higher level of TOP reinforces TVL which significantly impacts on economic development in Nigeria.

**Table 4.5 Diagnostic Tests (Variance Inflation Factor)**

| Variable | Coefficient Variance | Centered VIF |
|---|---|---|
| FOP | 22.96 | 1.136157 |
| LNFPI | 0.00 | 1.107032 |
| LNMCAP | 0.00 | 1.066073 |
| TOP | 5.66E-05 | 1.019910 |
| TVL | 0.00 | 1.902902 |
| C | 0.454 | NA |

**Source: Output from E-views 10.0 (2021)**

Result shows that all independent variables are minimally inflated thus suggesting the absence of multi-collinearity among independent variables. The centered VIF is found to be below 10 suggesting that the independent variables have a very low correlation between themselves.

## 4.5 Hypothesis Testing

In this section, the working hypotheses of the study are tested based on the outcome of the results from the estimated models of the study. The hypotheses are tested using the coefficients estimated in the regression output in Tables 4.4 while focusing on the significance levels and signs of the relevant coefficients.

**Hypothesis One**: *There is no significant effect of trade openness on economic development in Nigeria.*

In testing this hypothesis, we focus on the coefficient of trade openness in Table 4.4. The result, shows that the coefficient is negative and not significant at any level (judging from the probability of the t-values, which are greater than 0.01 and 0.05). Thus, the null hypothesis cannot be rejected, showing that a significant relationship does not exist between trade openness and economic development in Nigeria.

**Hypothesis Two:** *There is no significant effect of financial openness on economic development in Nigeria.*

From the results of the estimates presented in Table 4.4, the coefficient of financial openness passed the significance test in the estimation at the 1 percent level since the associated probabilities are all less than 0.01. Based on this result, the null hypothesis is rejected in this case and a significant impact is demonstrated from financial openness to economic development in Nigeria.

**Hypothesis Three**: *There is no significant linkage between foreign portfolio investment and economic development in Nigeria.*

The coefficient of foreign portfolio investment is found to be positive and significant at the 1 percent level. This indicates that we can reject the null hypothesis and accept the alternate. Therefore, one can correctly conclude that there is indeed a significant positive relationship between foreign portfolio investment and economic development in Nigeria.

**Hypothesis Four**: *Market capitalization has no significant impact on economic development in Nigeria.*

From the results of the estimates presented in Table 4.4, the coefficient of MCAP passed the significance test in the estimation at the 1 percent level since the associated probabilities are all less than 0.01. Based on this result, the null hypothesis is rejected in this case and a significant impact is demonstrated from market capitalization to economic development in Nigeria.

**Hypothesis Five**: *There is no significant relationship between total value traded in shares and economic development in Nigeria.*

From the results of the estimates presented in Table 4.4, the coefficient of TVL passed the significance test in the estimation at the 1 percent level since the associated probabilities are all less than 0.01. Based on this result, the null hypothesis is rejected in this case and a significant impact is demonstrated from total value traded in shares to economic development in Nigeria.

## 4.6 Discussion of Findings

Findings from empirical result have been reached and fitting for policy recommendations. Contrary to theoretical expectations, trade liberalization was found to have had no significant impact on economic development in Nigeria. This can be as a result of the weak institutional

framework inherent in Nigeria. Corruption and other vices might be culpable for the weakened effect of trade liberalization on economic development measured by PCI in Nigeria. This finding supports the school of thought that suggests that trade liberalization crowds-out domestic investors through intense competition which may then lead to reduced national income. This finding confirms the findings of Yasmin, et al (2006), Sheikh, et al, (2020), Duru, et al, (2020) and Oloyede, et al, (2021) where trade liberalization was found to have negated economic development and in some cases had no significant impact.

Financial openness was observed to be significant and positive indicating that increased financial openness impacts economic development positively. From extant theories, increased financial openness increases foreign capital flows into the economy which fuels economic development. Financial openness also allows foreign direct investors to conduct business in the local environment which has a positive spillover effect in terms of technological advancement or managerial efficiency. This finding follows the submission of Oyovwi and Eshenake (2013), Bayar (2016) and Kudaisi, et al, (2021) whose studies reported a positive relationship between financial openness and economic development.

Foreign portfolio investment was found to have a positive significant relationship with economic development during the period of study. Foreign portfolio investment (FPI) deepens and widens the stock market which increases its total value (MCAP) and creates more avenues for firms to raise funds for business operations. This finding is in tandem with the report of Samuel, et al (2016), Akinbobola, et al, (2017), and Etale and Sawyerr (2020) whose studies found a significant positive relationship between foreign portfolio investment and economic development.

Stock market performance on the other hand was found to have a significant positive impact on economic development in Nigeria. Specifically, increased performance of the market as measured using MCAP signifies that the gap between deficit and surplus unit is being closed.

Better performance of the market would mean that production units have access to needed funds which increases general production level in the economy. Secondly, TVL was also found to be positive and significant thus indicating that higher value (depth) of the market enhances economic development given that the market is performing. These findings is in tandem with the studies of Ologunwa and Sadibo (2016), Uchenna, et al (2016), Kapaya (2020) and Udo, et al (2021) whose studies documented a positive relationship between stock market performance and economic development.

Findings showed that the interaction between financial openness and foreign portfolio investment is positive and significant. This implies that economies with open financial system are more likely to have larger inflow of foreign portfolio investment which can enhance economic development. This finding confirms the submission of Ajao (2012) whose study found that the interaction of financial openness and foreign capital flow had a significant impact on stock market performance. However, the interaction of trade openness and stock market as measured using MCAP was found not to be significant and negative. This implies that higher trade openness does not have a significant relationship with the size of the stock market. However, a significant interaction is found between trade openness and the total value of the market. This shows that increased level of trade openness enhances the value of the domestic market which reinforces the development of the economy.

# CHAPTER FIVE

# SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

## 5.1 Introduction

This chapter considers the summary of the entire work, draws the final conclusion, makes recommendations, presents contributions to knowledge and suggests areas for further research.

## 5.2 Summary of Findings

This study was conducted to investigate the impact of trade liberalization, stock market performance and economic development in Nigeria. This study also aimed to ascertain the multiplicative (joint) effect of trade liberalization and stock market performance on economic development in Nigeria. To this effect, the FMOLS was adopted on time series data that spanned 1987-2020. The results were found to be robust to both data manipulations and specifications. From empirical analysis, a general outcome of the study indicates that trade liberalization has had no significant impact on economic development. Specifically, the following findings were made.

1. Trade openness was found to have a negative and not significant effect on economic development in Nigeria.
2. Financial openness had a positive and significant effect on economic development in Nigeria.
3. Foreign portfolio investment had a significant positive effect on economic development in Nigeria.
4. Total value of shares traded has a positive and significant effect on economic development in Nigeria.

5. Market capitalization had a positive and significant effect on economic development in Nigeria.
6. The interaction between financial openness and foreign portfolio investment had a significant positive influence on economic development. However, trade openness and market size (MCAP) did not significantly impact economic development in Nigeria. However, trade openness was found to impact on economic development by raising the total value of shares traded in Nigeria stock market.

## 5.3 Conclusion

Given theoretical and empirical propositions as to the impact of trade liberalization and stock market performance on economic development, this study was undertaken to examine the effect of trade liberalization and stock market performance on economic development in Nigeria. Findings have been robust and relationships between the dependent and independent variables established. Therefore, premise on findings, this study concludes that there is no significant relationship between trade liberalization and economic development in Nigeria, although the stock market plays a significant role in economic development. Secondly, the interaction between trade liberalization and MCAP has no significant impact on economic development although a significant interaction was found between trade liberalization and TVL in Nigeria. Therefore, this study concludes that trade liberalization enhances economic development in Nigeria through the rise of the stock market total value.

## 5.4 Recommendation

1. Contrary to theoretical propositions, trade liberalization was found to negate economic development and was not significant. As already opined, this might be as a result of the crowding out of local firms which can have a ripple effect on the economy and citizenry at large. Therefore, policies must be made to protect local firms and these could be in the form of incentives to key industries to increase their

competitive strength. Policies could also be made to close down a little on trade liberalization through increased importation tariff to protect local producer/traders.

2. The stock market was observed to reinforce economic development in Nigeria. Therefore, market regulators such as the Securities and Exchange Commission (SEC) must increase the depth and breadth of the market by innovating new instruments so as to provide investors with more opportunities to invest and provide users of finance with finance to promote production which in the long run will keep the wheel of economic activities running.
3. Foreign portfolio investment is found to have a positive impact on economic development in Nigeria. Appropriate policies should be made to attract this form of capital flow as it can be used to bridge the gap between savings and investment. Challenges like terrorism, corruption and low dept of the market should be curtailed so as to maximize the inflow of foreign portfolio. However, care should be taken as excessive portfolio investment have been found to negate economic development in the long run because of its volatility as a sudden withdrawal of investment can cause a plunge in the entire market.
4. This study recommends more openness of the financial system as it is observed to reinforce economic development. More inflow of foreign capital or integration of financial institutions should be encouraged by policy makers so as to reinforce economic development.
5. Findings showed that only the interaction between financial openness and foreign portfolio investment significantly reinforced economic development. Therefore, this study recommends that policies be made to increase financial openness so as to increase the inflow of foreign investment which can trigger economic development. However, complete trade liberalization should be re-considered especially as it has been found to negate economic development.

## 5.5 Contribution to Knowledge

This study has made the following contribution to knowledge

1. This study provided empirical evidence as to the joint effect of trade liberalization and stock market performance on economic development in Nigeria unlike previous studies that have focused solely on economic growth.
2. This study employed the use of the Fully Modified Ordinary Least Square (FMOLS) to capture the effect of the dependent and independent variables especially as it can be used to solve endogeniety issues that can arise from time series analysis.
3. The use of current time series data (2020) in this study helps update the time scope in the empirical literature.

## 5.6 Suggestion for Future Study

While this study has been apt on examining the joint effect of trade liberalization and stock market performance on economic development in Nigeria, further studies can examine this in the light of other advanced methodologies like panel GMM, Panel ARDL, Panel VECM and other dynamic models. Other economies in Sub Sahara Africa should also be investigated so as to identify key trends and patterns in trade liberalizations and its resultant effect on economic development in Africa.

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## Appendix 1

## Appendix A: Result from Econometric Analysis

## Descriptive Statistics

| | FOP | LNFPI | LNMCAP | LNPCI | TOP | TVL |
|---|---|---|---|---|---|---|
| Mean | 0.024231 | 19.74757 | 7.597811 | 2.799001 | 35.71220 | 485.5772 |
| Median | 0.022351 | 20.10288 | 10.15238 | 2.782450 | 35.25827 | 173.1113 |
| Maximum | 0.058711 | 23.43081 | 10.92888 | 3.393058 | 53.27796 | 2350.876 |
| Minimum | 0.001969 | 14.67549 | 0.000000 | 0.000000 | 16.94061 | 0.225400 |
| Std. Dev. | 0.014914 | 2.252519 | 4.646203 | 0.601968 | 9.404627 | 597.0887 |
| Skewness | 0.766538 | -0.422078 | -1.039809 | -2.948320 | -0.101883 | 1.201570 |
| Kurtosis | 2.868584 | 2.331189 | 2.118983 | 14.79950 | 2.422949 | 3.994516 |
| Jarque-Bera | 3.354093 | 1.643201 | 7.226416 | 246.4980 | 0.530553 | 9.582537 |
| Probability | 0.186925 | 0.439727 | 0.026965 | 0.000000 | 0.766994 | 0.008302 |
| Sum | 0.823855 | 671.4175 | 258.3256 | 95.16602 | 1214.215 | 16509.62 |
| Sum Sq. Dev. | 0.007340 | 167.4369 | 712.3776 | 11.95804 | 2918.751 | 11764991 |
| Observations | 34 | 34 | 34 | 34 | 34 | 34 |

## Unit Root Test Result

Null Hypothesis: FOP has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -3.977349 | 0.0043 |
| Test critical values: | 1% level | -3.646342 | |
| | 5% level | -2.954021 | |
| | 10% level | -2.615817 | |

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

**1st diff**

Null Hypothesis: D(FOP) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -7.809509 | 0.0000 |
| Test critical values: | 1% level | -3.653730 | |
| | 5% level | -2.957110 | |
| | 10% level | -2.617434 | |

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

**FPI**

Null Hypothesis: LNFPI has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -3.307393 | 0.0226 |
| Test critical values: | 1% level | -3.646342 | |
| | 5% level | -2.954021 | |
| | 10% level | -2.615817 | |

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

**1st diff**

Null Hypothesis: D(LNFPI) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=8)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -5.765077 | 0.0000 |
| Test critical values: | 1% level | -3.661661 | |
| | 5% level | -2.960411 | |
| | 10% level | -2.619160 | |

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

**MCAP**

Null Hypothesis: LNMCAP has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -2.772154 | 0.0732 |
| Test critical values: | 1% level | -3.646342 | |
| | 5% level | -2.954021 | |
| | 10% level | -2.615817 | |

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

**1st diff**

Null Hypothesis: D(LNMCAP) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

| | t-Statistic | Prob.* |
|---|---|---|
| Augmented Dickey-Fuller test statistic | -8.308550 | 0.0000 |

| | | |
|---|---|---|
| Test critical values: | 1% level | -3.653730 |
| | 5% level | -2.957110 |
| | 10% level | -2.617434 |

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

**PCI**

Null Hypothesis: LNPCI has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -2.120405 | 0.6959 |
| Test critical values: | 1% level | -3.646342 | |
| | 5% level | -2.954021 | |
| | 10% level | -2.615817 | |

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

**1st diff**

Null Hypothesis: D(LNPCI) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -4.071960 | 0.0045 |
| Test critical values: | 1% level | -3.653730 | |
| | 5% level | -2.957110 | |
| | 10% level | -2.617434 | |

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

**TOP**

Null Hypothesis: TOP has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -3.255911 | 0.0255 |
| Test critical values: | 1% level | -3.646342 | |
| | 5% level | -2.954021 | |
| | 10% level | -2.615817 | |

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

**1st diff**

s
Null Hypothesis: D(TOP) has a unit root
Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=8)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -6.826976 | 0.0000 |
| Test critical values: | 1% level | -3.653730 | |
| | 5% level | -2.957110 | |
| | 10% level | -2.617434 | |

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

Null Hypothesis: TVL has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -2.086316 | 0.2511 |
| Test critical values: | 1% level | -3.646342 | |
| | 5% level | -2.954021 | |
| | 10% level | -2.615817 | |

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

Null Hypothesis: D(TVL) has a unit root
Exogenous: Constant
Lag Length: 3 (Automatic - based on SIC, maxlag=8)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -5.628362 | 0.0001 |
| Test critical values: | 1% level | -3.679322 | |
| | 5% level | -2.967767 | |
| | 10% level | -2.622989 | |

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

## Co-Integration Test

Date: 12/25/21 Time: 15:57
Sample (adjusted): 1989 2020
Included observations: 32 after adjustments
Trend assumption: Linear deterministic trend
Series: FOP LNFPI LNMCAP LNPCI PCI TOP TVL
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

| Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | 0.05 Critical Value | Prob.** |
|---|---|---|---|---|
| None * | 0.788281 | 135.3310 | 95.75366 | 0.0000 |
| At most 1 * | 0.667056 | 85.65112 | 69.81889 | 0.0016 |
| At most 2 * | 0.529930 | 50.45809 | 47.85613 | 0.0279 |
| At most 3 | 0.427180 | 26.30216 | 29.79707 | 0.1199 |

| | | | | |
|---|---|---|---|---|
| At most 4 | 0.213668 | 8.472300 | 15.49471 | 0.4164 |
| At most 5 | 0.024088 | 0.780248 | 3.841466 | 0.3771 |
| At most 6 | 0.01920 | 0.286790 | 4.342891 | 0.2920 |

Trace test indicates 3 cointegratingeqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

| Hypothesized No. of CE(s) | Eigenvalue | Max-Eigen Statistic | 0.05 Critical Value | Prob.** |
|---|---|---|---|---|
| None * | 0.788281 | 49.67987 | 40.07757 | 0.0031 |
| At most 1 * | 0.667056 | 35.19303 | 33.87687 | 0.0347 |
| At most 2 | 0.529930 | 24.15593 | 27.58434 | 0.1294 |
| At most 3 | 0.427180 | 17.82986 | 21.13162 | 0.1363 |
| At most 4 | 0.213668 | 7.692052 | 14.26460 | 0.4109 |
| At most 5 | 0.024088 | 0.780248 | 3.841466 | 0.3771 |
| At most 6 | 0.01920 | 0.319829 | 1.389202 | 0.1829 |

Max-eigenvalue test indicates 2 cointegratingeqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

## Regression Summary

Dependent Variable: PCI
Method: Fully Modified Least Squares (FMOLS)
Date: 12/25/21 Time: 16:24
Sample (adjusted): 1988 2020
Included observations: 33 after adjustments
Cointegrating equation deterministics: C
Long-run covariance estimate (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| FOP | 0.713123 | 0.154000 | 4.630668 | 0.0002 |
| LNFPI | 0.242649 | 0.061062 | 3.973817 | 0.0005 |
| LNMCAP | 0.098881 | 0.021361 | 4.629260 | 0.0060 |
| TOP | -0.000901 | 0.013558 | -0.066458 | 0.9475 |
| TVL | 0.128902 | 0.042174 | 3.056432 | 0.0067 |
| FOP*LNFPI | 2.666754 | 0.863578 | 3.088301 | 0.0075 |
| TOP*LNMCAP | -0.000650 | 0.001666 | -0.389959 | 0.6997 |
| C | 1.943893 | 1.264755 | 1.536971 | 0.1364 |

| | | | |
|---|---|---|---|
| R-squared | 0.797697 | Mean dependent var | 6.945132 |
| Adjusted R-squared | 0.751012 | S.D. dependent var | 0.779603 |
| S.E. of regression | 0.389012 | Sum squared resid | 3.934590 |
| Long-run variance | 0.164638 | | |

## Variance Inflation Factor (VIF)

Variance Inflation Factors
Date: 12/25/21 Time: 16:28
Sample: 1987 2020
Included observations: 33

| Variable | Coefficient Variance | Uncentered VIF | Centered VIF |
|---|---|---|---|
| FOP | 22.96021 | 4.102418 | 1.136157 |
| LNFPI | 0.000979 | 86.50238 | 1.107032 |
| LNMCAP | 0.000240 | 4.367944 | 1.066073 |
| TOP | 5.66E-05 | 17.68069 | 1.019910 |
| TVL | 0.00801 | 9.029102 | 1.902902 |
| C | 0.454132 | 101.9391 | NA |

## Appendix B: Data Presentation for Analysis

### Dataset (1987-2020)

| Year | LnFPI | FOP | TOP | LnMCAP | TVL (*in billions)* | PCI |
|---|---|---|---|---|---|---|
| **1987** | 20.80407 | 0.032172 | 19.49534 | - | 0.38 | 598.2649 |
| **1988** | 20.17112 | 0.019223 | 16.94061 | - | 0.85 | 549.2374 |
| **1989** | 19.20837 | 0.047817 | 34.18262 | - | 0.61 | 474.232 |
| **1990** | 19.09947 | 0.014528 | 30.92474 | - | 0.23 | 567.5286 |
| **1991** | 17.92818 | 0.015747 | 37.0216 | - | 0.24 | 502.9141 |
| **1992** | 21.35681 | 0.058184 | 38.22739 | - | 0.49 | 477.1776 |
| **1993** | 16.6936 | 0.049119 | 33.71975 | 9.330921 | 0.80 | 270.224 |
| **1994** | 17.11657 | 0.058711 | 23.05924 | 9.473823 | 0.99 | 321.3207 |
| **1995** | 17.05746 | 0.008203 | 39.52838 | 9.890823 | 1.84 | 408.181 |
| **1996** | 17.80613 | 0.010834 | 40.25773 | 10.1043 | 6.98 | 461.5196 |
| **1997** | 16.82717 | 0.008996 | 51.46101 | 10.09896 | 10.33 | 479.9838 |
| **1998** | 14.67549 | 0.005529 | 39.27861 | 10.01375 | 13.57 | 469.4305 |
| **1999** | 16.21467 | 0.017111 | 34.45783 | 9.468285 | 14.07 | 497.8416 |
| **2000** | 20.03464 | 0.02365 | 48.9956 | - | 28.15 | 567.9307 |
| **2001** | 20.53907 | 0.027318 | 49.6805 | - | 57.68 | 590.3818 |
| **2002** | 18.71289 | 0.021051 | 40.03517 | 9.37547 | 59.41 | 741.7475 |
| **2003** | 19.02442 | 0.020858 | 49.33496 | - | 120.40 | 795.3862 |
| **2004** | 18.99628 | 0.015045 | 31.89587 | 10.20047 | 225.82 | 1007.874 |
| **2005** | 20.00572 | 0.031059 | 33.05946 | 10.34721 | 262.94 | 1268.383 |
| **2006** | 20.97637 | 0.026016 | 42.56657 | 10.51628 | 470.25 | 1656.425 |
| **2007** | 20.49971 | 0.024801 | 39.33693 | 10.92888 | 1,076.02 | 1883.461 |
| **2008** | 21.94757 | 0.034158 | 40.79684 | 10.6818 | 1,679.14 | 2259.114 |
| **2009** | 19.65994 | 0.030173 | 36.05871 | 10.50817 | 685.72 | 1911.608 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **2010** | 21.67355 | 0.023828 | 43.32076 | 10.70369 | 799.91 | 2280.437 |
| **2011** | 21.98748 | 0.030572 | 53.27796 | 10.59138 | 638.93 | 2487.598 |
| **2012** | 23.43081 | 0.048435 | 44.53237 | 10.74978 | 808.99 | 2723.822 |
| **2013** | 23.05744 | 0.031225 | 31.04886 | 10.90639 | 2,350.88 | 2961.549 |
| **2014** | 21.335 | 0.011959 | 30.88519 | 10.79773 | 1,338.60 | 3098.986 |
| **2015** | 20.57093 | 0.008058 | 21.33265 | 10.69874 | 978.05 | 2687.48 |
| **2016** | 21.36213 | 0.013215 | 20.72252 | 10.47411 | 577.82 | 2176.003 |
| **2017** | 23.05845 | 0.033917 | 26.3476 | 10.57075 | 1,078.49 | 1968.565 |
| **2018** | 15.72941 | 0.001969 | 33.00783 | 10.49859 | 1,203.37 | 2027.779 |
| **2019** | 21.85171 | 0.012041 | 34.02388 | 10.64268 | 931.48 | 2229.859 |
| **2020** | 22.00484 | 0.008333 | 25.39979 | 10.75258 | 1,086.18 | 2097.092 |

Source: World Bank Development Indicator (2021)