# FINANCIAL INTEGRATION AND ECONOMIC GROWTH IN NIGERIA

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**FINANCIAL INTEGRATION AND ECONOMIC GROWTH IN NIGERIA FINANCIAL INTEGRATION AND ECONOMIC GROWTH IN NIGERIA**

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**BEING A THESIS IN THE DEPARTMENT OF**

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# DECLARATION

This is to declare that this thesis titled “Financial Integration and Economic Growth in Nigeria” is truly researched by Obriki, Samson Tegheri under the supervision of Prof. S.M. Aguwamba and Prof. Adeghe Raphael Igbinosa has not been presented elsewhere for the award of any degree or certificate. All materials consulted have been fully acknowledged.

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# CERTIFICATION

We, the under-signed, hereby certify that this thesis titled “Financial Integration and Economic Growth in Nigeria” was written by Obriki, Samson Tegheri with Matriculation Number PG17/021885/BMS under our supervision/examination and thus same meet the regulations governing the award of Doctor of Philosophy (Ph.D) Degree in Finance of the Igbinedion University, Okada, Edo State.

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# DEDICATION

This work is dedicated to God Almighty for His love and steadfastness.

# ACKNOWLEDGMENTS

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# ABSTRACT

This study investigated the effect of financial integration on economic growth in Nigeria from 1986 to 2020. In this study, financial integration variables such as foreign direct investment inflow, foreign portfolio investment inflow, trade openness, financial deepening, foreign remittances and official development assistance were employed as the independent variables, while real gross domestic product was used as the dependent variable. Six research questions and six hypotheses were formulated. Relevant conceptual, theoretical and empirical literatures were reviewed. The study was anchored on theory of financial liberalization and endogenous growth theory. These theories were adopted because they are germane in explaining the relationship between financial intermediation and economic growth. The study adopted longitudinal research design. Data were sourced on these variables from the Central Bank of Nigeria Statistical Bulletin, 2020 and World Development Indicators. Descriptive statistics, Augmented Dickey Fuller unit root test, Johansen Cointegration Test and Error Correction Mechanism (ECM) were employed in analyzing the data. The analysis was done with the aid of e-view version 9.0. The study found that foreign direct investment, foreign portfolio investment inflow, trade openness, financial deepening and official development assistance have significant effect on economic growth while foreign remittances have no significant effect on economic growth in Nigeria. The study concludes that financial integration has significant positive impact on economic growth in Nigeria. The study recommended amongst others that government needs to put in place appropriate macroeconomic policies and institutions that will drive the benefits of financial integration in order to sustain economic growth and development.

# CHAPTER ONE INTRODUCTION

## Background to the Study

Globalization, advancement in information and communication technology coupled with growing financial deregulation and liberalization in international capital markets has made financial markets throughout the world steadily become more open to foreign investors. This development has also made a number of countries, including Nigeria, initiate reforms to foster financial market development and attract foreign portfolio flows. Financial integration is the process through which the financial markets of two or more countries or regions become more connected to each other. Conceptually, Kizito and Hooi (2019) noted that financial integration entails the eradication of restrictions on cross-border financial operations so that financial institutions can freely operate, firms can directly borrow or raise funds, and equity and bond investors can directly invest across countries without restrictions. It includes the sharing of information, best practices and technologies among financial institutions, cross-border capital flows, direct access of firms to funds and investors to investment in international capital markets, and trading of domestically innovated financial products in the international capital markets, as well as the involvement of foreign investors in the domestic financial markets.

Financial integration can take different forms, which may include cross-border capital flows, participation of foreign interests in the domestic markets, information sharing and practices among financial institutions, or unification of market infrastructures. Financial integration

can have a regional or global dimension, depending on whether a country’s financial market is more closely connected to neighbouring economies or to global financial centres (IMF, 2016). Financial integration has major channels through which participating countries can benefit from it. The first channel is the consumption channel which eases capital scarcity and enhances risk sharing. Improvement in terms of trade and portfolio diversification cost of capital may potentially lower the cost of capital thus boosting the rate of economic activities hence increasing the rate of economic growth. Financial integration may also help to advance the economies of countries through the production channel. This entails economic growth stimulation through production efficiency - as countries have greater access to world capital market amplifies specialization in production and productivity growth through enhanced stock market liquidity (Mahajan & Verma, 2015).

Abdulaziz (2020) noted that the degree of integration of financial markets around the world increased significantly during the late 1980s and 1990s. A key factor underlying this process has been the increased globalization of investments seeking higher rates of return and the opportunity to diversify risk internationally. At the same time, many countries have encouraged inflows of capital by dismantling restrictions, deregulating domestic financial markets, and improving their economic environment and prospects through the introduction of market-oriented reforms. In particular, many developing and transition economies have removed restrictions on international financial transactions, at the same time that they were relaxing regulations on the operation of domestic financial markets and moving away from regimes of financial repression. Policies aimed at increasing the openness of domestic financial markets to foreign investors have included the removal of controls on capital

outflows and the liberalization of restrictions on foreign direct investment (Kouki & Rezgui, 2017).

In the literature, the effectof financial integration on economic growth has been propelled through many channels, ofwhich financial systems, qualityof institutions, productivity, and capital accumulation are most relevant. As noted by Rajan and Zingales in Biplab and Inder (2021), financial integration facilitates developed financial systems, which helps in promoting an efficient and better qualityof governance at the corporate level aswell as at the government level. As aresult, factor productivity receives anupward thrust. Bekaert, Harvey, and Lundblad (2011) find thatfinancial openness improves stockmarket efficiency, institutional quality, andpolicy efficiency, although thefindings are not robustacross specifications. They further note that thepositive impactof financial opennesson productivity outweighs the negative effectsof possible contagion or banking crisis. Inother words, increasing capital inflows improves creditaccess and reduces the costof capital, and at the sametime promotes technology transfersto LDCs, which, in turn, accelerates investmentand increases productivityand therefore growth.

Moreover, theoretical literature supports therole of financial integration in theprocess of economic growthand development. Hence, several developingand emerging economies have embarked on arapid process of financial integrationin the past few decades. This is because financial integration has thecapacity to promote capitalallocation, production specialization, international consumption risk-sharing andeconomic growth (Gehringer, 2015; Saafi, Mohamed &Doudou, 2016). Besides, financial integration improves factor productivityvia greater efficiency inresources allocation andeasy access toinvestment opportunities thereby

stimulating economicgrowth (Gehringer, 2013). Furthermore, byintensifying competition and the import offinancial services, financial integration could accelerate thedevelopment and operations of thedomestic financial sector andspur more investment andgrowth (Klein & Olivei, 2008).

International financial integration has lots ofadvantages for adeveloping economy like Nigeria. Financial integration leads to efficient capital allocation, better governance, higher investment and growthand risk-sharing. There are direct and indirect channels throughwhich the impactof financial integration works and is transmittedto the real economy. Directly, it is argued thatfinancial openness affects economicgrowth through enabling access toforeign financial markets, increasing financialservice efficiency and helping indiversification of risks andconsumption smoothing. Thus while inducingadditional capital investment, it also fosters macroeconomicdiscipline. Indirectly, the processof international financial integration facilitates thetransfer of technological know-how promotes tradeand enhances specialization (Ahmed, 2011).

Nigeria is one of thedeveloping economies that receives largechunk of international capital inflow as aresult of financial integration resulting fromfinancial liberalization of theSAP era, yet the country’sgrowth has been low. Foreign capital inflow resulting fromfinancial integration has been identified as animportant vehicle for augmenting thesupply of funds for domesticinvestment (Fosu & Magnus, 2006). African countriesand other emerging economies needsubstantial inflow ofinternational capitalto fill their savings andforeign exchangegaps, enhance capital accumulationand growth, needed toovercome widespread poverty in thesecountries. Thus, the relativeadvantage(s) of financial integration as a

productivity-enhancing package is nowwidely acknowledged especiallysince the recent global financialcrises (Ajayi, Adedeji, Giwa & Araoye, 2017).

Financial integration strengthens domestic financial sector making way for moreefficient capital allocationand higher investment andgrowth opportunities (Levine, 2001). In the presence offinancial integration, efficiency gains are generated amongdomestics firms because theyhave to compete directly with foreignrivals (Kose et al., 2006). Since it is believed thathaving access to a broaderbase of capital is akey requirement foreconomic growth, thenfinancial integration is necessary because it expedites flowsof capital from developed economies with richcapital to developing economieslike Nigeria with limited capital. Such capital inflows can significantly reduce the costof capital incapital-poor Nigeria leading tohigher investment.

Dominant economic theory suggests thatfinancial integration may foster moreefficient resource allocation, facilitate riskdiversification, increase specializationin production, create technological spin-offs, contribute to thedevelopment of thefinancial system, improve investment ratesand boost growth (King & Levine 1993; Mougani 2006; and Prasad, Rogoff, Wei & Kose, 2003). In acknowledgingthe existence of thesepotential impacts, the industrialized countries have been committed tocapital account liberalization policiesfor over a quarter of a century. Many of the positive impacts observed in these countries are largely due to increased investment opportunities and financial development induced by greater opennessof capital markets. Many studies have naturally proposed that lessdeveloped countries should adopt economic policies aimed atfostering greater internationalfinancial integration. However, this approach has been criticized byothers who, inparticular, note that

fluctuations incapital flows related tocapital account liberalization are likelyto cause and spread financialcrises. These new stances were mainlydeveloped after the crisesof the 1990s. Institutions such as theInternational Monetary Fundand some authors thus emphasizedthat while financialopenness is desirable, it is essentialfor such liberalization to begradual and prudent (IMF 2001). Based on theforegoing, this study examined the effectof financial integration on economic growth in Nigeria.

## Statement of the Problem

The nexus between international financial integration and economic growth continues to be one of the mostdebated issues among international economists. In aperfect neoclassical textbook world, there are good argumentsfor a positive growth impactof integration with the international capitalmarket, especially fordeveloping countries. By tapping the poolof global savings capital-poorcountries could free themselvesof a binding constrainton economic growth – lackof capital. However, arguments against the economicwisdom of openness to global capitalflows have also been putforward. Financial integration does not have to bewelfare enhancing in thepresence of other distortionssuch as trade barriers andweak institutions, or ifinformation asymmetries affect theproper working of theinternational financialmarket (Stiglitz, 2000).

The dismal condition of thefinancial system in thedeveloping countries post financial globalization has also received agreat attention since thelast quarter of 20th century. Stiglitz (2002) argue that financial integration has remained acurse to developing countriessince it is amajor cause offinancial crises. However, Mishkin (2005) contends thatfinancial integration

promotes growth but it is the badpolicies of thesedeveloping countries that hinder thepromotional effect offinancial globalization. It was also contended thatfinancial market integration entails severalrisks in terms ofcapital flight which could lead tobalance of payment disequilibrium throughcurrency fluctuations andhigh inflation rates which engender current account deficitand unemployment (Boyle, 2009). Also, Stulz (2005) maintained that financial marketintegration remainineffective indeveloping countries due to lackof strong property rights, weaklegal system, corruption, lackof quality financial information, poor corporate governance, and governmentoverbearing interference with thefinancial sector.

Notwithstanding these theoretical benefitsof financial integration for trendgrowth and inequality, empirical studies have so farproduced mixed evidence, particularly regardingthe effect offinancial market integration oneconomic growth indeveloping countries. One reason why empirical researchon the financial integration-growth link remained inconclusiveto date is that different approachesand econometric techniques made itdifficult to synthesize the results. Furthermore, to ourknowledge, there is paucity of studies on the effect offinancial market integration oneconomic growth in Nigeria. Most of the studies in this area focus on the importance offinancial market development. And those that covered its effect of economic growth are not recent. This study, therefore, fills this gap by empirically investigating the effect of financial integration on economic growth in Nigeria between 1986 and 2020.

## Objectives of the Study

The broad objective of this study is to examine the effectof financial integration on economic growth inNigeria. Specifically, the objectives of the study are to:

1. Ascertain the effect offoreign direct investment inflow on economic growth in Nigeria.
2. Determine the effect of foreign portfolio investment inflow on economic growth in

Nigeria.

1. Investigate the effect of trade openness on economic growthin Nigeria.
2. Evaluate the effect of financial deepening on economic growth in Nigeria.
3. Ascertain the effect of foreign remittances on economic growthin Nigeria.
4. Examine the effect of official development assistance on economic growthin Nigeria.

## Research Questions

The following research questions will guide this study:

1. To what extent does foreign direct investment inflow affect economic growthin Nigeria?
2. How does foreign portfolio investment inflow affect economic growth in Nigeria?
3. To what extent does trade openness affect economic growthin Nigeria?
4. To what extent does financial deepening affect economic growthin Nigeria?
5. How does foreign remittances affects economic growth in Nigeria?
6. To what extent does official development assistance affect economic growthin Nigeria?

## Hypotheses

The following hypotheses stated in null form will guide this study:

Ho1: Foreign direct investment inflow has nosignificant effect on economic growthin

Nigeria.

Ho2: Foreign portfolio investment inflow has nosignificant effect on economic growth

in Nigeria.

Ho3: Trade openness has nosignificant effect on economic growthin Nigeria.

Ho4: Financial Deepening have nosignificant effect on economic growth in Nigeria.

Ho5: Foreign remittances have nosignificant effect on economic growthin Nigeria.

Ho6: Official development assistance has nosignificant effect on economic growthin

Nigeria.

## Significance of the Study

The study is expected to be beneficial to the following stakeholders: policy formulators, government, and academics.

**Policy Formulators**: The findings of this study will enlighten them on theeffect of financial integration oneconomic growth in Nigeria. The results of the study will also informpolicy formulators on theextent to which Nigeria is financially integrated into theglobal financial markets, and also help themto know the appropriate policiesto implement to reduce their vulnerability tofinancial crises. This will help and guide in theirfuture policy formulation

especially as it relates toopening the financial systemto the outside world andhow it can impact oneconomic growth.

**Government**: The findings of this study will be very beneficial to Nigerian governmentas it will enable them tounderstand how financial integration caninfluence economic growth in Nigeria. It will throw morelight on thebenefit of financial integrationas compared to financial repression.

**Academics**: Researchers and academicians will benefit from thefindings of this studyas it will provide themboth theoretical and empirical foundation inunderstanding the effectof financial integrationon economic growth. Also, this research study will undoubtedlybe a wealth of knowledge tostudents of economics, bankingand finance and other disciplinesas well aslecturers. It will surely impart learning, contribute toknowledge and serve as abase for further researchworks in areas relating tofinancial integration and how itaffects economic growth in Nigeria.

## Scope of the Study

The research is limited toidentifying the effect offinancial integration oneconomic growth in Nigeria. The study covered theperiod from 1986 to 2020 because it was theperiod financial liberalization started manifesting inNigeria. In this study, foreign portfolio investment inflows, foreign direct investment inflow, trade openness, foreign remittances, Official development assistance, exchangerate and interest rate were employed as theindependent variables while gross domestic product aproxy for economic growth was employedas the dependent variable.

## Definition of Operational Terms

**Financial Integration:** Financial integration as the processwhere the financial markets of two or morecountries or regions become moreconnected through establishing further relations to oneanother in financial servicesand international trade.

**Economic Growth**: Economic growth as 'a rise in thetotal output (goods or services) produced by acountry'. It represents an increase in thecapacity of an economy toproduce goods andservices, compared from oneperiod of time to another. Economic growth refers only to thequantity of goods and servicesproduced.

**Gross Domestic Product**: This is the measure of theproductivity of the people in the economy.

**Net Capital Inflow**: This is a measure of financial integration which implies the netflow of funds being invested in acountry during acertain period of time (usually a year).

**Net FDI Inflow**: Foreign direct investment is netinflows of investment to acquire alasting management interest (10 percent or moreof voting stock) in anenterprise operating in an economyother than that of theinvestor. It is the sum ofequity capital; reinvestment of earnings; otherlong-term capital; and short-term capital asshown in the balanceof payments.

**Trade Openness**: Trade Openness Index is aneconomic metric calculated as theratio of country's totaltrade, the sum of exports plusimports, to the country'sgross domestic product. The interpretation of theOpenness Index is the higherthe index the larger theinfluence of trade ondomestic activities.

**Foreign Remittance**: This is limited tomoney sent by migrant workerswho have been staying in aforeign country for more than ayear to his/her household inhis/her country of origin and thisdoes not include migrantsthat are self-employed.

**Official Development Assistance (ODA):** It is an international transferof capital, goods,

orservices for the benefitof other nations. These aids come informs of capital transfersin cash

or kind, either asgrants or loans.

**Foreign Portfolio Investment**: It involves thecommitment of funds to domesticsecurities by

a foreign nation or thepurchase of foreign securitiesby a resident. In finance, Foreign

Portfolio Investment is theentry of funds into acountry where foreigners make purchasein the

country’s stock andbond markets, sometimes forspeculation.

# CHAPTER TWO LITERATURE REVIEW

## Introduction

In this section, the related literatures were examined. The first section covered the conceptual

review where the relevant conceptsin this study were scholarly examined. The second section

covered the existing empirical studiesand their findings while the last sectioncovered the

theoretical framework where thetheory relevant to this study was examined.

## Conceptual Review

## Financial Integration

Financial integration encompasses domestic financial market deregulationand capital account liberalization. Financial integration is definedas the integration of acountry’s local financial system withinternational financial markets. It usually requires liberalizationof domestic financial sector and thecapital account. Financial integration, thus, entails increase incross- country capital movement, which involves anactive participation of local borrowersand lenders ininternational markets and a widespread useof international financial intermediaries andinstruments (Bussiere, 2004). Eyraud, Singhand Sutton (2017) gave the definitionof financial integration as theprocess of financial markets wheretwo or more countriesor regions establishes further relationsto one another. They also indicated that financial integration is amultifaceted concept with nouniversally agreed definition. They highlight two main financial integration indicators which are thelevel of cross border financial flowand the stagesof consolidation and convergenceacross financial markets.

IMF (2016) defined financial integration as theprocess where the financial marketsof two or more countries orregions become more connected throughestablishing further relationsto one another infinancial services andinternational trade. Financial integration has variousforms which are cross-bordercapital flows, foreign engagement indomestic markets, sharingof information among financial institutions,or merger offinancial market infrastructures. Financial integration can be regardedas a regional orglobal, depending on acountry’s financial market association orlinkage to neighboring countriesor to global financial centers orinstitutions. Asian Development Bank (2013) defines financial integration as aprocess of financial market that is motivated byliberalization of domestic financialmarket and capital accountrelaxation.

Prasad, Rogoff, Wei and Kose (2003) defined financial integrationas an individual economy’s linkagesto the global capitalmarkets. That is, the degree to which aneconomy’s capital market is connectedto that of other economiesand the international communityas a whole. Their definitionlies within the contextof the existence oflegal restrictions orother country-specificfactors (be it governance, institutional or macroeconomic) which may promote orretard capital flowsacross country’s borders. McKinnon-Shaw (1973) hypothesis posits that theelimination of credit ceilingsand restrictions by thegovernment results in higher real interest ratewhich raises savings, therebymaking funds available for investingand promotingeconomic growth. The concept offinancial integration comesabout when the domestic financialmarket is liberalized toallow foreigners to partake inactivities on the domestic financialmarket. Furthermore, financial integration also arises whengovernment

removes barriers tocapital mobility so as not todiscriminate against foreign creditorsin the domesticfinancial market.

Wambugu (2018) defined financial integrationas an individual country’s removalof the existing market-based restrictionsand administrative barriers oncapital movement across borders. It also includes measures toattract foreign capital thus creating afinancial market structure and productssimilar to those of theoverseas markets and therefore becomes partof the globalmarket. The study used FDI and portfolio inflowsas the measures offinancial integration. Yabara (2012) defined financial integration in thecontext of the lawof one price where perfectly integrated financialmarkets have no restrictions oncross-border transactions, returns onidentical assets are equalized acrosscountries, as long as there is nodifference in country risksand exchangerisk. Yabara (2012) believed that financial integrationin this context can be achieved withoutnecessarily unifying institutionsor markets. For instance, the

U.K and U.S.A. and are said to behighly integrated eventhough these markets have different institutionaland legal frameworks. Domestic financial market can be strengthened through financial integrationwith efficient capital allocation, more investmentsand growth opportunities. It also facilitates theflows of capital fromnations with rich capital tocountries with scarcecapital. This movement of capital can lowerthe cost of capital incapital scarce economies leading toincreased investments which is amajor engine forgrowth.

Based on the abovedefinitions, financial integration is theprocedure where thefinancial markets of two or morecountries or regions establishfurther relations in financial servicesand international tradeto create a well-integrated regionalor global regulated financial system. The process could bethrough cross-border flowsof capital, foreign involvement indomestic

markets, sharingof information among financial institutions, orharmonization ofmarket infrastructures. Based on acountry’s connection of financialsystem to region orglobal financial institutions, thefinancial integration can beconsidered as regional orglobal integration. Theoretically, integration could be seenby the convergence of pricesof goods and services with similarrisk and returns irrespectiveof their location (Ezeaku, Anyalechi, Onwumere & Okereke**,** 2018). Financial integration can be mainly determinedby the cross- border flowof financial capital and thestages of convergenceof asset prices. The convergenceof financial market structures facilitates and produces inducement for cross- border capital flows, whilefinancial openness offersopportunities to import financial institutions alleviating for greater unificationacross markets (Abdulaziz, 2020).

In other words, financial integration is asituation where there is nodiscrimination of economic participantsin their access tocapital resources or investmentof capital. i.e. financial integration is attained whenthere is equal accessof financial market (Kouki & Rezgui, 2017). Therefore, one would anticipate seeinga substantial cross border portfolioof financial assets and a convergenceof asset prices andyields across borders. Financial integration follows the lawof one price, on condition that theassets have the samecashflows and are affected byidentical risk factors. However, when differentiationof yields across borders is detected, thenoticed differentiation may not beadequate prove ofmarket fragmentation, it may just mean thatmarkets are pricingdifferent risks differently. Similarly, different interestrates on loans to smalland medium enterprises located indifferent countries may showdifferent productive capacity. On the other hand, theconvergence of sovereignyields across countries

before the financialcrisis may not implymarket integration. In other words, convergenceof prices may not necessarilymean integration (Arash & Aidin, 2016).

Financial integration is theprocess through which financial markets in aneconomy become more closely integratedwith those in other economiesor with those in the restof the world. This implies anincrease in capital flowsand a tendency for pricesand returns on traded financial assets in differentcountries to equalise (Brouwer, 2015). Financial integration could proceed withenforcement of a formalinternational treaty. This refers to twodistinct elements. One is the provision forconcerted or cooperative policyresponses to financial disturbances. The other is theelimination of restrictions on cross-borderfinancial operations bymember economies, as well asharmonization of regulations of financial systemsto achieve full unification ofregional financial markets, and taxes andregulations between member economies (Wambugu, 2018).

Brouwer (2005) argues that financial market integration is theprocess through which financial markets in aneconomy become moreclosely integrated with those inother economies orwith those in the restof the world. This implies an increase incapital flows and atendency for prices and returnson traded financial assets indifferent countries toequalise. Economic Commissionfor Africa (2008) confirm that this requires the eliminationof some or all restrictions onforeign financial institutions fromsome (or all) countries. Ideally, financial institutionswould be able to operate or offercross-border financial services, aswell as establish links betweenbanking, equity andother types of financialmarkets. Financial integration could also arise evenin the absence ofexplicit agreements. Such forms ofintegration could include entryof foreign banks intodomestic markets, foreign participation

in insurance marketsand pension funds, securitiestrading abroad and directborrowing by domesticfirms in international markets.

Ho (2009) shows thatfinancial market integration could proceed withenforcement of a formal internationaltreaty. This refers to twodistinct elements. One is the provisionfor concerted or cooperativepolicy responses tofinancial disturbances. The other is theelimination of restrictions oncross-border financial operations bymember economies including harmonisation ofregulations offinancial systems. Both elements are necessary toachieve full unification ofregional financial markets, andtaxes and regulations betweenmember economies.

There are several advantagesof integrating financial systems throughformal agreements. The foremost is theexploitation of economiesof scale that can allow firms, inparticular those small and medium-sizedones that face creditconstraints, to have better accessto broader financial orcapital markets (Ho, 2016). Individual risks could also beminimised by integrating into alarger market and, at thesame time, enhancing portfoliodiversification. In addition, regulatoryindependence could be enhanced throughformal integration, which widens the scope forparticipation in governing thefinancial system. Financial institutions operating under theinfluence of integration arrangements fordifferent economies should adhere to astandardised valuationrule, which not only increases thetransparency of individual financial sectors, but also improves theoverall stability of involved financialsystems. On the other hand, financialintegration could emerge withoutformal agreements. It might take various forms, suchas financial information sharing, foreignparticipation indomestic banking,

insurance and pensionfund businesses, direct borrowingof domestic firms ininternational financialmarkets, etc (Sami, Meriem & Makram, 2016).

Baele, Ferrando, Hördahl, Krylova and Monnet (2014) assume that themarket for a givenset of financial instrumentsand/or services is fullyintegrated if all potentialmarket participants have the samerelevant characteristics:

1. They face a single setof rules when they decide to dealwith those financial instruments and/orservices.
2. They have equal access to thesame set offinancial instruments and/orservices.
3. They are treatedequally when they are activein the market.

This definition of financial marketintegration contains three importantfeatures. First, it is independentof the financial structureswithin regions. Financial structures encompass all financial intermediaries – institutions or markets – and how they relate toeach other with respect to the flowof funds to and fromhouseholds, governments and corporations. Second, frictions in theprocess of intermediation – i.e. the accessto or investment ofcapital either through institutionsor markets – can persist afterfinancial integration is completed. Financial integration is concernedwith the symmetricor asymmetric effects ofexisting frictions on differentareas. Even in the presenceof frictions, several areas can befinancially integrated as long asfrictions affect these areassymmetrically.

However, if the frictions have asymmetric effectson the areas, the process offinancial integration cannot reachthe completion point. Third, definition offinancial integration separates the two constituentsof a financial market, namely thesupply of and the demand for

investmentopportunities. Full integration requires thesame access to banks ortrading, clearing and settlement platformsfor both investors (demand for investmentopportunities) and firms (supply of investmentopportunities, e.g. listings), regardless of theirregion of origin. In addition, onceaccess has been granted, full integrationrequires that there is nodiscrimination among comparablemarket participants based solelyon their location oforigin. When a structure systematically discriminates against foreigninvestment opportunities due to national legal restrictions, then thearea is not financiallyintegrated. An area can also bepartially financially integrated (Saafi, Mohamed & Doudou, 2016).

The definition of financialmarket integration is closely linked to thelaw of one price. The law of oneprice states that if assets have identicalrisks and returns, then they should bepriced identically regardlessof where they are transacted. In other words, if a firmissues bonds in two countriesor regions, it must pay thesame interest rate to both setsof bondholders (Jappelli & Pagano, 2008). If the law of oneprice does not hold, then there is room for arbitrage opportunities. However, if the investmentof capital is non-discriminatory, then anyinvestors will be free toexploit any arbitrageopportunities, which will thencease to exist, thereby restoring thevalidity of the law ofone price.

Baltzer, Cappiello, De Santis and Manganelli (2018) show it is easyto see that the lawof one price is in fact animplication of the abovedefinition. If all agents face the samerules, have equal accessand are treated equally, any pricedifference between two identicalassets will be immediately arbitragedaway. Still, there are cases where the lawof one price is notdirectly applicable. For instance, anasset may not beallowed to be listed onanother region’s exchange, whichaccording to the definitionwould constitute an obstacle tofinancial

integration. Another example is representedby assets such as equitiesor corporate bonds. These securities are characterizedby different cash flows and veryheterogeneous sources of risk, and as suchtheir prices are notdirectly comparable. Therefore, alternative measures based onstocks and flows ofassets (quantity-based measures) as well as thoseinvestigating the impact of commonshocks on prices (news-basedmeasures) may usefully complement measures relying onprice comparisons (price-basedmeasures).

Guha, Daga, Gulati, Bhupal and Oak (2014), distinguishes between total, directand indirect financial integration. The total financial integrationthus embraces direct andindirect integration. Total (perfect) integration means thatexpected real interestrates are the same on the marketsconcerned. Where total financial integration is notperfect, the reason may be imperfectdirect and/or indirect financial integration. Direct financial integration, which is also calledcapital market integration, is expressed indeviations from the lawof one price for financialsecurities. Under perfect direct financial integrationthis law obtains, and aninvestor can expect, the samereturn on investments fromdifferent markets (and borrower thesame loan costs), after therequisite adjustment has beenmade for risk. If the differential inexpected risk- adjusted returns is greaterthan zero but less thanor the same as the transactioncost (Oyeniran & Temitope, 2015), we can say thatmarkets are disintegrated but are nonethelessefficient.

Financial integration can alsovary in strength from perfect integrationto perfect disintegration or segmentation (Oxelheim, 1990). When expectedreal interest rates are not the samein the markets in question (not perfect integration), then themarkets are said to besegmented. Segmentation is aresult of lack of integrationand this can happen due to hightransaction costs involved in arbitrage ormarket inefficiency (Guha, Daga, Gulati, Bhupal & Oak, 2014).

Financial integration includes notonly integration of financialmarkets or services but cantake other forms aswell. These forms need not beinterconnected nor are they advancedforms (stages) of theintegration process. Liebscher, Christl, Mooslechnerand Ritzberger-Grünwald (2016) show thatintegration can take manyforms and present variousaspects:

* Monetary integration, either throughcurrency unions (Europe, Western and Central Africa) orthrough dollarization, such as inLatin America and theCaribbean.
* Liberalizationof the capitalaccount.
* Subcontracting abroad offinancial services or infrastructure, such as in the caseof listing of securities onforeign stock exchanges.
* Foreign entry.
* Regulatory convergenceand harmonization.

## Potential Benefits of Financial Integration

Theoretically, analytical arguments supportingfinancial integration revolve aroundboth the direct and indirectchannels through whichfinancial openness can help fostergrowth in developingcountries. Although thesechannels are related in oneway or the other, it is important toidentify the important contributionof each of them. Baele, FerrandoHördahl, Krylova and Monnet (2014) orEconomic Commission for Africa (2008) considerthree widely accepted interrelated benefitsof financial integration: more opportunitiesfor risk sharing and riskdiversification, better allocation ofcapital among investment opportunitiesand potential for highergrowth. The benefits are discussed below:

**Risk Sharing:** Economic theory predicts thatfinancial integration should have aneffect on facilitating risksharing (Jappelli & Pagano, 2008). The integration into largermarkets or even the formationof larger markets is beneficialto both firms andfinancial markets and institutions. According toBaele, Ferrando, Hördahl, Krylovaand Monnet (2014) financial integration provides additionalopportunities for firms andhouseholds to sharefinancial risk and to smooth outconsumption inter-temporally. Financial integration allows projectowners with low initial capitalto turn to an intermediarythat can mobilize savingsso as to cover the initial costs. Theseavenues indicate a strong linkbetween financial institutions andeconomic growth (Levine, 1997). Theexploitation of economies-of-scale can allow firms, inparticular those small andmedium-sized ones that facecredit constraints, to havebetter access to broader financial orcapital markets.

Risk-sharing opportunities make itpossible to finance highly riskyprojects with potentially very high returns, as theavailability of risk-sharingopportunities enhances financialmarkets and permits risk-averseinvestors to hedge againstnegative shocks. Because financialmarkets and institutions can handlecredit risk better, integrationcould also remove certainforms of credit constraints facedby investors. The law of largenumbers guarantees less exposureto credit risk as thenumber of clients increases. Individual risks could also beminimised by integrating into alarger market and, at thesame time, enhancing portfoliodiversification (Osada & Saito, 2007).

Through the sharing ofrisk, financial integration leads to specializationin production across theregions. Furthermore, financial integration promotes portfolio diversificationand the sharingof idiosyncratic risk acrossregions due to the availabilityof additional financial

instruments. It allows households tohold more diversifiedequity portfolios, and inparticular to diversify theportion of risk that arises fromcountry-specific shocks. Similarly, it allows banks todiversify their loanportfolios internationally. This diversification should help euroareahouseholds to buffercountry-specific income shocks, so thatshocks to domestic income should notaffect domestic consumption, but bediversified away byborrowing or investingabroad (Jappelli & Pagano, 2008). Kalemli-Ozcan, Sorensen andYosha (2013) provide empirical evidence thatsharing risk acrossregions enhances specialisation in production, therebyresulting in well-knownbenefits.

Kalemli-Ozcan and Manganelli (2008) analyzed banking integrationsince the banking system, especiallyin the euro area, is the mainfinancial channel for boththe corporate sector andhouseholds. They find that highercross-border banking integration increases consumption risksharing. Their findings have importantpolicy implications for theeuro. Asymmetric shocks in a currencyunion generate outputand inflation differentials. The impactof such shocks is considerablyreduced if cross-country risksharing is significant. To the extent that risk-sharingallows hedging ofconsumption, it represents akey counteracting mechanism against outputasymmetric shocks amongmembers of acurrency union. This mechanism reduces theneed for policy interventionin dealing with suchasymmetries (Kalemli-Ozcan, Sorensen & Yosha, 2013).

**Improved Capital Allocation:** It is a generallyaccepted view that greaterfinancial integration should allow abetter allocation ofcapital (Levine, 2001). An integratedfinancial market removes allforms of impedimentsto trading of financial assetsand flow of capital, allowing for theefficient allocation of financialresources for investmentsand production. In

addition, investors will bepermitted to invest theirfunds wherever theybelieve these funds will be allocated to themost productiveuses. More productive investmentopportunities will therefore becomeavailable to some or allinvestors and a reallocationof funds to themost productive investmentopportunities will takeplace (Baele, Ferrando, Hördahl, Krylova, & Monnet, 2014). Kalemli-Ozcan and Manganelli (2008) show that byopening access to foreign markets, financial integration will giveagents a wider rangeof financing sources and investmentopportunities, and permits thecreation of deeper and moreliquid markets. This allows more information to bepooled and processed moreeffectively, and capitalto be allocated in a more efficient way.

**Promotion of Specialization**: Since capitalaccount liberalization offers countriesthe opportunity to tap intointernational pool of funds tosmoothing consumption andproduction, they tend to specialize in theproduction of goods andservices where they have comparative advantageover other countries. This therefore boosts aggregate productionand economic growth (Prasad et al., 2003).

**Enhanced Macroeconomic Discipline**: Literature suggests capital accountliberalization can yield itspotential benefits only underprudent macroeconomic managementand other threshold factors. This puts pressure on thegovernment to follow moredisciplined macroeconomic policiesand reduce policy mistakes (Gourinchas & Jeanne, 2003). Alsopotential costs such asfinancial crisis andmacroeconomic volatility keeps thegovernment in check, thereby leading to prudent economic managementand its associated growth. Furthermore, financial integration servesas a signal to the international community that acountry is willingto adopt and implementsound macroeconomic policies such asreducing government budgetdeficits

and eliminating inflationtax (financial loss of valueon cash and other financial assetsdue to the effects inflation).

**Economic Growth:** The theoretical literature proposes variousmechanisms through which financialintegration may affect economicgrowth. In the neoclassicalframework, all effects are generated throughcapital flows. In the standardmodel, opening internationalcapital markets generates flows fromcapital-abundant towards capital-scarcecountries, thereby accelerating convergence (henceshort term growth) in thepoorer countries. In amore sophisticated context, productivitymay also increase since capitalflows may relieve the economy fromcredit constraints and thus allowagents to undertake moreproductive investments (Bonfiglioli, 2008). Furthermore, in the standardneoclassical growth model, financial integration enhances the functioning ofdomestic financial systems throughthe intensification of competitionand the importation offinancial services, bringing about positive growtheffects (Levine, 2001). An alternativeview (Obstfeld, 2004) suggests that international capitalmobility may affect productivity independentlyof investment, by promoting internationalrisk diversification, which induces moredomestic risk taking in innovation activities, therebyfostering growth.

There is ample evidence in the literature thatfinancial integration leads to highereconomic growth. Gianetti et al. (2002) demonstrate that financial integration facilitates accessto investment opportunitiesand an increase incompetition between domesticand foreign financial institutions. This in turn leads toimproved efficiency of financialinstitutions as financial resources are releasedfor productive activities. In addition financial integration leads to increased availabilityof intermediated investment opportunitiesand consequently

higher economicgrowth. Authors also argue that theintegration process will increase competitionwithin less developed regionsand thereby improve the efficiencyof their financial systems by, forinstance, reducing intermediationcosts. Moreover, this should renderthese regions‟ financial systemsmore attractive, thus enhancing participationfrom local and foreign

agents and contributingto further development of thesefinancial systems. Edison, Levine,

Ricci and Slok (2012) and Prasad, Koseand Terrones (2013) examine various dimensionsof the causal link betweenfinancial integration and growth, andconclude thatfinancial

integration generates growthbenefits, although to varyingdegrees.

**Augmentation of Domestic Savings**: Capital account liberalization helps thecountry at the receiving endof the capital flows togain access to international poolof resources to complement domesticsavings. This helps to increase the capitalneeded to undertakehuge investment activitieswhich ultimately promote growth. In manydeveloping countries, the capacity to save is constrainedby a low level ofincome. Insofar as the marginalreturn from investment is at leastequivalent to the cost ofcapital, net foreign capitalinflows can augment domesticsavings, increase the levelsof physical capital perworker, and promote growth (Agenor, 2003). It also helps tosmoothen domestic consumptionand production byallowing the country toborrow in “bad” times and lendin “good” times. Thus, Individualhouseholds and firms are able to sustaintheir consumption andproduction levels respectivelythrough international capitalflows leading to animprovement in the standardof living of thepeople and reduce macroeconomicvolatility.

**Reduction in Costof Capital through Better GlobalAllocation of Risk**: Financial globalization facilitates themobility of capital fromcapital-abundant advanced economies

where returns oncapital are relatively low tocapital-scarce developing economieswhere the rates ofreturn are relatively high. Thus, thesearch for high rates ofreturn on capital leads to thediversification of capital todeveloping economies. This increases theamount of capital available todomestic investors, thereby reduce thecost of capital and further reduceequity risk premium through opportunitiesto diversify investment internationally (Amarendra& Anupam, 2013).

**Transfer of technology and Managerial Know-How:** When substantial amountof capital flows into acountry, especially if it takes theform of foreign directinvestment (FDI), it is usually accompaniedby technology and managerialexpertise. These managerialand technological spillovers tend to introduce innovative ideasand techniques of solving problems inindustrial settings, which eventually raises aggregateproductivity and boosts economic growth. Typical examples are theexploration techniques andtechnology employed in the miningand energy sectors ofindustry (Abdulaziz, 2020).

**Stimulation of Domestic Financial Sector Development:** Another important argumentfor financial globalizations is itspotential to induce the developmentof domestic financial sector. Substantial inflowsof portfolio equity into thefinancial system tend to increase thedepth and width (liquidity) of thefinancial market. FDI in thebanking sector enables foreignbanks to participate in the bankingindustry, whose entry brings aboutcompetition, efficiencyand improved access to thefinancial intermediationprocess (Prasad et al., 2003 and Agenor, 2003). Thus foreignparticipation in the domesticfinancial system increases efficiencyby lowering costsand supernormal profits associated withmonopolistic ofcartelized markets. Foreign banks can help better theregulatory and supervisory frameworkof the domestic

banking sector. They do these bypushing for the implementationof internationally accepted best-practices in thebanking and finance industry. A typical example is theimplementation of the InternationalFinancial Reporting Standards (IFRS). Financialglobalization exposes the domestic financialsystem to various financialinstruments, products andservices used on the globalcapital market. These products andservices may also be introducedby the foreign banks in the domesticeconomy to facilitate theirtransactions withmultinational corporations. Typical examples are theintroduction of custodian andnominee services in theinvestment banking industryof developing countries.

**Financial Development:** According toHartmann, Heider, Papaioannou and Lo Duca, (2007) financial development can be understoodas a process offinancial innovations, and institutional andorganizational improvements in thefinancial system. Combined, theprocess have the effectof reducing asymmetric information, increasing thecompleteness ofmarkets and contracting possibilities, reducingtransaction costs andincreasing competition. Jappelli and Pagano (2008) show thatthe main channel throughwhich the removal of barriersto integration can spur domesticfinancial development is increased competitionwith more sophisticated orlower-cost foreign intermediaries. This competitivepressure drives down the cost of financialservices for the firms andhouseholds of countries with lessdeveloped financial systemsand thus expands localfinancial markets.

In some cases, theforeign entrants themselves may supply theadditional financial services. Direct penetrationby foreign banks and cross-border acquisitionsof intermediaries are likely to erodelocal banks‟ rents. If mergers bringbanks closer to their efficientscale, the process will also beassociated with a decreasingcost of intermediation. Sharper competition, possibly

coupled with costcutting, translates into moreabundant credit and/orlower interest rates. A second channel is throughharmonization innational regulations (accountingstandards, security laws, banksupervision, corporate governance), which the processof integration requires. To the extent thatregulatory harmonization promotes convergenceto the best international standards, it will alsoenhance domestic financial developmentand the entry of foreignfinancial intermediaries in morebackward countries (Muthoga, 2012).

The link betweenfinancial development and financial integration is of theutmost importance, as there is strongevidence that financial development is linked witheconomic growth (Baele, Ferrando, Hördahl, Krylova& Monnet, 2014). As described inLevine (1997), financial systems serve some basicpurposes. Among others, they lower uncertainty byfacilitating the trading, hedging, diversifyingand pooling of risk; allocateresources; and mobilizesavings. These functions may affecteconomic growth through capitaland technological accumulation in an intuitiveway. However, while Levine (1997) recognises thepositive relationship between economicgrowth and financial development, he is careful not to infer anycausality. Indeed, economicgrowth and financial development are sointertwined that it is difficultto draw any firmconclusion with respect tocausality. Nevertheless, recentresearch has found evidence that financialdevelopment affects growthpositively. Rousseau (2012) finds empirical evidence thatfinancial development promotes investmentand business by reallocatingcapital. Also, industry-levelstudies like that of Jayaratneand Strahan (1996) show that financial developmentcauses economic growth.

Trichet (2015) argues that financialintegration fosters financial development, which inturn creates potential for highereconomic growth. Financial integration enables therealisation of

economies ofscale and increases the supplyof funds for investmentopportunities. The actual integration process also stimulates competitionand the expansion ofmarkets, thereby leading to furtherfinancial development. In turn, financial development can result in amore efficient allocationof capital as well as areduction in the cost ofcapital.

## Potential Cost and Concerns of Financial Integration

In addition tothe potential benefits, financial integrationmay also generate significantcosts. In a world with imperfectcapital markets, integration can make acountry more vulnerableto external macroeconomic shocksand financial crises. Contagion effects, possiblyamplified by “fickleness” andherding behaviour offinancial institutions, may actuallyincrease output and consumption volatilityinstead of lowering themas the risk-sharing thesisholds. Most likely, the potential dangersof greater contagion due tofinancial integration are not asrelevant to the euro area as todeveloping countries. This is becausecountries with relativelywell developed financialsystems, such as the euroarea, are less vulnerable tofinancial crises (Lane& Milesi- Ferretti, 2016).

Financial integration in thepresence of pre-existing distortions canactually retard growth (Edison, Levine, Ricci & Slok2012; Ho, 2009). In Eichengreens (2011) insightful literature review, there are innumerable constellationsof distortions for which liberalizationof international capitalcontrols will hurt resource allocationand growth. For example, in the presence of tradedistortions, capital account liberalization may inducecapital inflows to sectors in which thecountry has a comparativedisadvantage. Boyd and Smith (1992), for instance, argue thatfinancial integration in countries with weakinstitutions and policies, such

as weak financialand legal systems, actually induces capitaloutflows from capital-scarce countries tocapital abundant countries withbetter institutions. Thus, sometheories predict that international financialintegration will promote growthonly in countries withsound institutions and goodpolicies (Edison et al., 2002).

Many research papers, e.g. EdisonLevine, Ricci and Slok (2012), Agenor (2013), Baele, Ferrando, Hördahl, Krylova andMonnet (2014), Komárek andKomárkova (2008) and ECB (2010) mention majorcosts of financialintegration: high degree of concentrationof capital flows and lackof access to financing forsmall countries, either permanentlyor when they need it most; inadequate domesticallocation of these flows, which may hamper theirgrowth effects and exacerbatepre-existing domestic distortions; lossof macroeconomic stability; pro-cyclical movementsin short-term capitalflows; high degree of volatilityof capital flows, which relates in part to herdingand contagion effects; and risksassociated with foreign bankpenetration.

**Concentration and Domestic Misallocationof Capital Flows:** Poor economic management and unfavourable macroeconomic policies ininstances of high degree offinancial openness can result incapital flight. Capital flight occurs whenfinancial assets or capitalrapidly flow out of a country due toevents in the domesticeconomy (Duc, Anh & Chi, 2020). For instance, an increase in capitalgains tax or inflation may result in large movementsof short-term portfolios toeconomies with favourableinvestment climate. Domestic portfolio equity may also flowwith ease to othereconomies where the ratesof return on equity are highat the expense of thedomestic financial market, reducingits depth and liquidity (Ehigiamusoe & Hooi, 2018).

Historical evidencesuggests that periods of “surge” incross border capital flowstend to be highly concentratedto a small numberof recipient countries. A number ofdeveloping countries (particularly thesmall ones) may simply be “rationedout‟ of world capitalmarkets – regardless ofhow open theirfinancial account is. Although thecapital inflows that are

associated with anopen financial accountmay raise domesticinvestment, their impacton long- run growth may belimited if suchinflows are used to financespeculative or low-quality domestic investmentssuch as investments in thereal estate sector. Low-productivity investments in thenon-tradable sector may reduce overtime the economy’s capacityto export and lead togrowing external imbalances. The misallocationof capital inflows may inpart be the resultof pre-existing distortions in thedomestic financial system (EdisonLevine, Ricci &

Slok, 2012).

**Loss of Macroeconomic Stability:** The largecapital inflows induced byfinancial integration and openness can have undesirablemacroeconomic effects, includingrapid monetary expansion (due to thedifficulty and cost of pursuingsterilisation policies), inflationary pressures (resultingfrom the effect of capitalinflows on domesticspending) and real exchange rate appreciation andwidening current accountdeficits. Under a flexible exchangerate arrangement, growingexternal deficits tend to bringabout acurrency depreciation, which may eventuallylead to a realignmentof relative prices and induceself-correcting movements in trade flows. Bycontrast, under a fixed exchangerate regime, losses incompetitiveness and growingexternal imbalances can erode confidencein the viabilityand sustainabilityof the peg, thereby precipitating acurrency crisis and increasingfinancial instability (Agenor, 2013). For instance, excessivecapital inflows will lead to anappreciation of thelocal currency relative to

the internationaltrading currency therebymaking exports expensiverelative to imports. The result will be areduction in exports andan increase in importsculminating in balance oftrade problems (Arash &Aidin, 2016). Also under aflexible exchange rateregime, rising external deficits tend tocause currency depreciation, which may eventuallylead to an adjustmentof relative pricesand induce self-correcting movementsin trade flows (Agenor, 2003).

**Pro-cyclicality of Short-Term Flows:** Pro-cyclicality may, infact, have a perverseeffect and increase macroeconomicinstability: favourable shocks may attractlarge capital inflows and encourage consumptionand spending at levelsthat are unsustainable in thelonger term, forcing countriesto over-adjust when an adverseshock hits. There are essentially tworeasons that may explainthe pro-cyclical behaviourof short-term capitalflows. First, economic shocks tend to be largerand more frequent indeveloping countries, reflecting thesecountries relatively narrowproduction base andgreater dependence onprimary commodity exports. A common adverse shock to agroup of countries may cause deteriorationin some countries creditworthiness, as aresult of abruptchanges in risk perception. This can lead borrowerswho are only marginallycreditworthy to be “squeezed out” ofworld capital markets. Second, asymmetric informationproblems may trigger herdingbehaviour because partiallyinformed investors may rushto withdraw “en masse” their capital in responseto an adverse shock whose economicconsequences for the country are notfully understood (Komárek & Komárkova, 2008).

**Concentration of Capital Flows and Lack of Access**: Empirical evidenceof capital account liberalization over the pasttwo decades has shown that thesurge in cross-border capitalflows tends to behighly concentratedto a small numberof recipient countries (Agenor, 2003). For

instance, the shareof total private capitalflows to developingcountries fell significantly during the 1990swhile a significant shareof the capital flowswent to the top 10economies in the world. Theimplication is that a sizeablenumber of developing countries maybe “rationed out” of the internationalcapital market notwithstanding theextent to which theircapital account is opened.

**Herding, Contagion and Volatility of Capital Flows:** A highdegree of financial integration and openness may beconducive to a high degree ofvolatility in capital movements, aspecific manifestation of whichbeing large reversals inshort-term flows associated withspeculative pressures on thedomestic currency. The possibility of largereversals of short-term capital flows raisesthe risk that borrowersmay face costly “liquidity runs”. The higher thelevel of short-term debt is relativeto the borrowing country’s internationalreserves, the greater will be the risk of suchruns. High levels ofshort-term liabilities intermediated by thefinancial system also create risksof bank runs and systemicfinancial crises.

A high degree of financialintegration may facilitate volatilityin capital flows which can ultimatelyresult in financial crisis. This is themostly likely situation in timesof large reversals in short-termcapital flows associated withspeculative activities (Chigbu, Ubah & Chigbu, 2015). This act ofinvestors mimicking eachother’s actions, sometimes ignoringsocially vital information is knownas Herding. These sharp reversals tend todisrupt investment activities and leave thefinancial market indisarray. Similarly, investors may alsowithdraw their portfolio flowsfollowing the slightest hintof information from other partsof the world. They usually do this toavoid losses and mitigate theirrisk (Biplab & Inder, 2021).

In general, the degree ofvolatility of capital flows is relatedto both actual andperceived movements indomestic economic fundamentals, aswell as external factors, suchas movements inworld interest rates. In any caserational or irrational, herdingbehaviour often translates intolarge movements into andout of certain types ofassets and exacerbates fluctuations in assetprices and capitalmovements. Volatility of capitalflows can also result from contagioneffects (Kizito & Hooi, 2019).

**Risk of Entry by Foreign Banks:** Although foreignbank penetration can yieldseveral types of benefits, it also has somepotential drawbacks. First, foreignbanks may rationcredit to small firms (which tend tooperate in thenon-tradable sector) to a largerextent than domestic banks, andconcentrate instead onlarger and strongerfirms (which are ofteninvolved in the production ofexports). If foreign banks doindeed follow astrategy of concentratingtheir lending operationsonly to the mostcreditworthy corporate (and, to a lesserextent, household) borrowers, theirpresence will be less likely tocontribute to an overall increasein efficiency in the financialsector (Frey & Volz, 2011). More importantly, byleading to a higher degreeof credit rationing tosmall firms, they may have an adverse effect onoutput, employmentand incomedistribution. Second, entryof foreign banks, which tend to havelower operational costs, can create pressureson local banks to merge inorder to remaincompetitive. The process ofconcentration (which could alsoarise as foreign banksacquire local banks) could create banksthat are “too big to fail” or “toopolitical to fail” – as monetary authoritiesmay fear that the failure of asingle large bank couldseriously disrupt financialmarkets and lead tosocial disruptions. Third, entryof foreign banks may not lead toenhanced stability of thedomestic banking system, because theirpresence per se does not makesystemic banking crises less

likely to occur. In addition, they mayhave a tendency to “cut and run” during acrisis (Jim, 2017).

Besides the abovementioned costs of financialintegration one can alsodistinguish barriers hindering financial market integration.

Some of the barriers are described in e.g. Jappelli andPagano (2008). First, if two jurisdictions have differentcurrencies, exchange ratefluctuations create additional riskand investors will require arisk premium to hold a securitydenominated in a foreigncurrency. And even if there are noexchange rate fluctuations, transactioncosts for currency conversion will induce adeviation from internationalarbitrage. A second barrier to integration stems from differential taxesand subsidies, which drive awedge between the after-tax costsof capital in differentcountries. Next, differences in regulationand enforcement can preventfinancial intermediaries fromcompeting across borders onequal footing. For instance, regulation can create stifferentry barriers for foreignintermediaries; similarly, judicial efficiencycan differ across countries, requiringintermediaries to charge higherinterest rates ininefficient jurisdictions to compensatefor expected recovery costs incase of default. Finally, entry barriers may arise not fromregulatory constraints but fromasymmetric information between potential foreignentrants and domesticincumbents. This is particularly relevantin credit markets, wherethe opacity of firms andhouseholds combines with localknowledge to give local lendersan informational advantage.

Lack of integration reflects theexistence of barriers tocross-border activities. Kalemli-Ozcan and Manganelli (2008) classify theobstacles to financial integrationin three main categories:

* **Psychological/Informational**: Many studiese.g. Guiso, Sapienza and Zingales (2006) show non-egligiblepsychological and cultural barriers tofinancial integration. For example culturaldifferences and mistrust explains asignificant portion ofbilateral financial and tradeflows. Besides cultural psychological reasonsinformation frictions seem to have asignificant effect onfinancial integration. Portes and Rey (2015) show that variablesreflecting information asymmetriesamong countries (such astelephone costs, trading time, foreignnewspaper circulation) correlate significantlywith cross border equityflows.
* **Regulatory/Legal Obstacles**: A precondition for financial integration is the removal of any legislative or regulatory differences discriminating agents on the basis of their location.
* **Technical/Infrastructure Obstacles**: Technicalmarket infrastructuresare also key for financial integration. Impediments tosecurities trading across nationalborders inhibit arbitrage forcesand induce violations of thelaw of one price.

## Common Frameworks for Measuring Financial Integration

There are several financial integration measures but we are going to useLane and Milesi- Ferretti (2003) one. It is an indicatormeasured by the stock of accumulatedcapital flows (the sum of assetsand liabilities of foreign direct investmentand portfolio flows) with regardto GDP because this indicator better reflects thedevelopment offinancial integration from one year toanother paving us the way tobetter analyze thepossible effects of financialopenness on economic growth (Mahajan & Verma, 2015). Various measures exist in theliterature for

assessing the levelof financial integration. The methodswhich are used most are connected withgrowing investment opportunities. However, Ho (2009) says that astandard measure offinancial integration is difficult todevelop. There are many typesof financial transactions and somecountries impose acomplex array of priceand quantity controls on abroad assortmentof financial transactions. This leads toenormous hurdles in measuringcross- country differences in thenature, intensity and effectivenessof barriers to international capital flows (Eichengreen, 2011). Given the varietyof asset classes traded, themeasurement of financial integration is notstraight forward (Kalemli-Ozcan & Manganelli, 2008).

Over the last three decades, variousmeasures have been employed tomeasure the degree of financial integrationthat has taken place. In abroader sense, the measuresof financial integration can becategorized on the basisof the context in whichfinancial integration is defined. In thecontext of the law of oneprice, there are two (2) types ofmeasures of financial integration, namely*price-based measures* and *news-basedmeasures* (Baele, Ferrando, Hordahl, Krylova& Monnet cited inEhigiamusoe & Hooi, 2018)*.* Similarly, in thecontext of capital flows ormobility, there are two (2) classifications of measuresof financial integration, namely *dejure-measures*and *defacto-measures* (EdisonLevine, Ricci & Slok, cited inEzeaku, Anyalechi, Onwumere& Okereke**,** 2018).

**Price-based Measures:** The price-basedmeasures seek to measurediscrepancies in prices or returns on assetswhich may be caused bygeographical origins of theassets. This in essence constitutes adirect verificationof the law of oneprice, which implies that financialintegration is complete if assetswith identicalcharacteristics are priced equally. These measures are based ondirect asset pricesor rates ofreturn (yield) comparisonand also take into

considerationsystematic (non-diversifiable) risk factorsand other crucialcharacteristics (Frey & Volz, 2011).

Price-based measures measure discrepancies inprices or returnson assets caused by the geographicorigin of theassets. This constitutes a direct checkof the law of one price, which in turn must hold iffinancial integration is complete. If assets have sufficientlysimilar characteristics, it can base thesemeasures on directprice or yield comparisons. Otherwise it needs to take intoaccount differences insystematic (or non-diversifiable) risk factorsand other importantcharacteristics. The cross-sectional dispersionof interest rate spreads orasset return differentials can be used as anindicator of how faraway the various market segments are from being fullyintegrated. Similarly, betaconvergence, a measure borrowedfrom the growth literature, is anindicator for the speedat which markets areintegrating. In addition, measuring the degreeof cross-border price oryield variation relativeto the variability withinindividual countries may beinformative withrespect to the degree ofintegration in differentmarkets (Guha, Daga, Gulati, Bhupal & Oak, 2014). Typical examplesof price-based measuresof financial integration are cross-sectionaldispersion of interest ratespreads or assetreturn differentials, sigma-convergenceand beta-convergence. Another importantprice-based measure is degree ofvariability in cross-border priceor yield relative to the variabilitywithin a specific country (Jim, 2017).

**News-Based Measures:** The News-basedmeasures are basically designed todifferentiate informationeffects from other frictionsor barriers. The news-basedmeasures are designed to distinguish theinformation effects fromother frictions orbarriers. More precisely, in a financiallyintegrated area, portfolios should be welldiversified. Hence, one wouldexpect

news (i.e. arrivalof new economic information) of aregional character to have littleimpact on prices, whereascommon or global newsshould be relatively moreimportant. This presupposes that the degree ofsystematic risk is identicalacross assets in differentcountries; to the extent that it is not, financial integration is notcompleted and local news may continue toinfluence assetprices (Ho, 2009).

They are based on thepremise that in a financiallyintegrated area, portfoliodiversification reflects all availableinformation in thesystem. Therefore any neweconomic information from that particulararea has little or no impacton asset prices since all suchpossible outcomes have been factoredin the price (Jim, 2017). On the otherhand, common or globalnews should be of relatively moreimportance since theymight contain materialinformation that has the potential of distortingprices in thearea. Baele, Ferrando, Hordahl, Krylovaand Monnet (2004) argue that the pricemovements of benchmarkasset are good indicatorsof common news. For instance, the10-year German governmentbond yield is a goodbenchmark since it reacts mainly tocommon news in theEuro area instead of purelyGerman factors.

**Dejure Measures:** These measures offinancial integration seek tomeasure the presence or absence ofgovernment restrictions oncapitals flows in aneconomy (Kizito & Hooi, 2019). That is, legal restrictionsor controls that tend toimpede cross-border capitalflows. The most common used proxyof capital controls is theIMF’s Annual Reporton Exchange Arrangements and ExchangeRestrictions (AREAER) (Edison, Levine, Ricci & Slok, 2002). The IMF on anannual basis publishes a reporton the level of restrictions acountry imposes on financial transactions withthe rest of theworld. The IMF’s AREAER is oftenexpressed in a binary (0/1) measureof capital accountopenness, where 1 represents thepresence of legal

restrictionsand 0, otherwise. Although the dejuremeasure is an official measureof capital controls andrestrictions, it is leastpreferred due to itsshortcomings (Kose, Prasad & Taylor, 2009).

First, they do not reflectthe exact degree of capitalaccount openness becausethey are partially based on foreign exchangetransactions that may notessentially obstruct capitalflows. Second, they fail to capturethe degree or the level ofeffectiveness of the capital controlsand therefore regarded to besubjective in nature. Third, thesemeasures do not consistentlyreflect the actual degree of aneconomy’s integration into theinternational capital market. For instance, although Chinaretains extensive controls oncapital flows, it has not been able to curbinflows of speculativecapital in recent times (World Bank, 2010). Other examplesof dejure measures of financialintegration are the Chinn-Ito Index, Quinnmeasure and the recentlyconstructed Shindle Index (Kouki & Rezgui, 2017).

**Defacto Measures:** Defacto measures offinancial integration measure theactual quantity or value of capital thatflows across borders. These measuresof openness appear to be thebest available measure offinancial openness and have beenused extensively in recentempirical studies (Kouki & Rezgui, 2017). The choice of theparticular defacto measureof openness one chooses to use depends on theprecise questionone is interested in. Gross flows (the sum of total inflows and total outflows) in general areless volatile and provide amore insightful picture of integrationas it captures two-wayflows (Kose, Prasad & Taylor, 2009). Other authors prefer theuse of net flows (the difference betweeninflows and outflows). However, Kose, Prasad andTaylor (2009) argue that annualgross flows tend to be morevolatile and have measurementerrors. To mitigate theseproblems, they suggest the use of thesum of gross

stocks offoreign assets andliabilities as a ratio toGDP. These notwithstanding, defacto measures also havesome drawbacks. For instance, defactomeasures are most likelyto be endogenous in growthregression, making the issueof causal relationship questionable. Example of defactomeasures are stock ofcapital flows, stock of capitalinflows, and net capital inflows oroutflows (Muthoga, 2012). While both thedejure and defacto measures are important, thedefacto measures give a betterpicture of the extent of acountry’s integration into global financialmarkets. For many empiricalstudies this measure is morepreferred (Edison, LevineRicci & Slok, 2002; Kizito & Hooi, 2019).

Schäfer (2009) presents that theclassification of integration indicatorscan be geared to the type of datacollected or to theinformation revealed. With this approachindicators are calculated eitheron the basis of statisticaldata on actual businessactivities (e.g. interest rate statistics) or by meansof surveys of banksand consumers behaviour andintentions. For example, surveyscan be used, to learn about thebanks international strategiesor about consumer attitudestowards foreign providers. With regard to thetype of information mined, the indicatorscan be either qualitativeor quantitative. The lattercategory, in turn, can be volume-based orprice-based. Indicators canalso be classified by theircontribution to the measurementof integration as specifiedin the three definitionsof the term givenabove. Accordingly there are:

* Indicators depictingthe extent to which theeconomic objectives associated withthe integration processhave been met. In otherwords, what progress hasactually been made on achievingintegration.
* Indicators depictingwhether banks and consumersperceive the uniform internalmarket as a whole as theirdomestic market.
* Indicators depicting theextent to which the legalprerequisites are in place forbanks and consumers to take apan-European view, i.e. how far theartificial hurdles havebeen removed.

Two problems mayarise with each of the threegroups of indicators. Firstly, it may bedifficult to correctly measure thevariables entered into therespective indicator owing tolimited data availability. Secondly, if this is not anissue, it will then benecessary to check whetherthe calculated indicatorpermits constructive statementson the status of retail bankingmarket integration (Schäfer, 2009).

## Foreign Direct Investment Inflow

The United States Departmentof Commerce defines FDI to include allforeign business organizations in which a U.S citizen, organizationor affiliated group owns an interestof ten

(10) percentor more’. The UnitedNations defines foreigndirect investment as ‘investment in enterpriselocated in one countryand effectively being controlledby residents of another country’. This definition does notonly consider FDI as being mereinvestment, it also stresses on the statusof corporate control. Goldberg (2004) definesForeign direct investment (FDI) as a directinvestment into productionor business in a country byan individual or companyof another country, eitherby buying a company in the targetcountry or by expandingoperations of an existingbusiness in thatcountry. Foreign directinvestment is incontrast to portfolio

investment which is apassive investment in thesecurities of another countrysuch as stock and bond.

FDI is an investment madeby a company or entitybased in one country, into acompany or entity based inanother country (Zenasni & Benhabib, 2013). Foreigndirect investments differ substantially fromindirect investments suchas portfolio flows, wherein overseasinstitutions invest inequities listed on anation's stock exchange. Entities makingdirect investments typically have asignificant degree of influenceand control over thecompany into whichthe investmentis made. Open economies withskilled workforces and goodgrowth prospects tend to attract largeramounts of foreign directinvestment than closed, highlyregulated economies.

World Bank (1996) sees FDI as 'investmentmade to acquire a lastingmanagement interest

(normally ten percentof the voting stock) in abusiness enterprise operatingin a country other

than that of the investordefined according toresidency'. In line with this, theUnited Nations

Conference onTrade Agreement andDevelopment (UNCTAD) defines FDI as 'aninvestment

involving managementcontrol of a residententity in one economy by anenterprise resident in

anothercountry'. The Organization forEconomic Cooperation andDevelopment (OECD)

Benchmark definitionof foreign directinvestment (fourth edition) defines directinvestment as

"a categoryof cross-border investmentmade by a -resident inone economy (the direct

investor) with theobjective of establishinga lasting interest in anenterprise (the direct

investment enterprise) that is residentin an economy otherthan that of thedirect investor". The ownershipof at least 10% of theequity or voting powerby the direct investor is anecessary condition for aninvestment to bequalified as a directinvestment (OECD, 2008). Foreign directinvestments (FDI) are the netinflows of investment toacquiring long lasting

managementinterest in an enterpriseoperating in an economyother than that of theinvestor (World Bank, 2014).

Foreign directinvestment could come to thecapital-importing country as asubsidiary of a foreignfirm. It could also comeby means of formationof a company in which afirm in the investingcompany has equity holdingor the creation offixed assets in the othercountry by the nationalsof the investingcountry (Obadan, 2011). In suchinvestment, the foreignfirm exercises defacto or de jurecontrol over the assetsthey have created. The objectiveof the investors is toacquire a lastinginterest and effectivecontrol in the managementof the enterprise inwhich direct investmenttakes place. They may notnecessarily have major shareholding, buthaving an effective voicein the management meansthat the foreign investor has thepotential to influenceor participate in themanagement of anenterprise. Thus, it is the elementof influence and controlthat distinguishes directinvestment fromportfolio investment (Okoli, & Agu, 2015).

Foreign directinvestment (FDI) is "an increasein the book value of thenet worth of

investment in onecountry held by investorsof another country wherethe investments are

under the managerialcontrol of theinvestor" (Graham, 1995). To buttress thedefinition above,

Oloyede, (2014) noted thatmost FDI are in factsubsidiaries of MultinationalCorporations

(MNCs) such that theinvestors are the parentorganizations offirms. Thus, foreign direct

investmentinflows represent the expansionof the international activitiesof Multinational Corporations. Otto andUkpere, (2014) defines Foreigndirect investment (FDI) as a direct investment intoproduction or business in acountry by an individualor company of another country, either bybuying a company in thetarget country or byexpanding operations of an

existing businessin that country. Foreign directinvestment is in contrast toportfolio investmentwhich is a passive investmentin the securities of anothercountry such as stockand bond.

Oji-Okoro, Huang, Abbaand Edun (2014) defined FDI as an investmentmade by a company

or entity basedin one country, into acompany or entity based inanother country. Foreign

direct investmentsdiffer substantially fromindirect investments suchas portfolio flows,

wherein overseasinstitutions invest inequities listed on a nation's stockexchange. Entities

making directinvestments typically have asignificant degree of influenceand control over the

company intowhich the investment ismade. Open economieswith skilled workforcesand good

growth prospectstend to attract largeramounts of foreign directinvestment thanclosed, highly

regulated economies.

FDI is the transfer of foreigncapital in form ofequity and other assets ofinternational or

multinationalcorporations. It may involve the jointownership between theforeigners and the

government of thedomestic economywhere the capital is investedand it is called thejoint

venturecompanies. According to Egbo (2012), FDI is an investmentmade to acquire alasting

management interestin a business enterprisein a given country otherthan that of theinvestor

defined accordingto residency. He added that FDI is acombination of merger andacquisition

and new investmentsas well as thereinvested earnings andloans from and similarcapital

transfers betweenparent companies andtheir affiliates. FDI is seen to play akey role in the growth anddevelopment process ofdeveloping nations, like Nigeriawhose human and materialresources are underemployedor not fully employed. Accordingto Shiro (2008),

foreign investments consist of foreign resourcessuch astechnology, managerialand marketing expertise andcapital which have considerable impacton the host nation's production capacity.

Foreign Direct Investment (FDI) occurswhen a firm invests directly in theproduction or other

facilities in aforeign country in which it hasaffective control (Shenkar, 2007). FDI requires

the establishmentof production facilities abroadand on the otherhand the service facilities or

establishment of aninvestment presence throughcapital contribution andbuilding office

facilities. The Organizationfor Economic Cooperation and development conceptualized FDI

as net financingby an entity in adeveloping countryOyeranti, 2003). Alfaro, Chanda,

KalemliOzcan andSayek (2006) defined ForeignDirect Investment as the processwhereby

people in one countryobtain ownership ofassets for the purpose of gainingcontrol over the

production, distributionand other activitiesof a firm in a foreigncountry. An expanded

explanation of theoperational meaning of FDI has been offeredby Ayanwale and Bamire

(2007) as ownership of "atleast 10% of the ordinaryshares or voting stock in aforeign

enterprise. Thusownership of 10% ordinaryshares is the criterion for theexistence of a direct

investmentrelationship whileownership of less than 10% is recordedas portfolio investment.

From the foregoingappraisal, it is clear that anagreed meaning of FDI exists in theliterature

(Dutse, 2008). Aremu (2005) categorizes thevarious types of ForeignInvestment in Nigeria

into five: whollyforeign owned: jointventures; special contractarrangement; technology

management andmarketing arrangements, and subcontractcoproduction and specialization.

Todaro and Smith (2009) defineFDI simply as 'a corporation thatconducts andcontrols productive activitiesin more than onecountry'. Buttressing this, Nobel laureatePaul Krugman defines FDI as 'internationalcapital flows in which a firm in onecountry creates orexpands a

subsidiary inanother'. Also, in his ownwords, Rutherford (1992) defines FDI asinvestment in businesses of anothercountry which often takes theform of setting up a localproduction facilities or thepurchase of existingbusinesses. A lead driver of foreigndirect investments,

especially in LessDeveloped Countries (LDCs), is MultinationalCorporations (MNCs).

MNCs are enterpriseswith headquarters mostly indeveloped countries and alsooperate in

other countries, bothdeveloped and developing withnet sales of $100milliondollars to several

thousand milliondollars (Jhingan, 2007). FDI is thedistinctive feature of MNC; hencea theory

of FDI is also a theoryof multinational enterpriseas an actor in the worldeconomy. Based on

this proposition, FDI is notsimply an internationaltransfer of capital but also theextension of

an enterprisefrom its home countryinto a foreign-hostcountry. Multinational Corporations

(MNCs) are oligopolisticin nature hence theirinvestment capital (FDI) gravitatestowards

countries and regionswith highest financial returnsand the greatest perceivedsafety to avoid

the risk ofcapital loss. Their mainobjectives is profitmaximization such thatover (90%)

ninety per cent ofglobal FDI goes to otherindustrial countries and thefastest growing

developing countrieswhile they are largelyunconcerned with issues such aspoverty,

inequality andunemployment alleviation (Todaro & Smith 2003).

According to Carkovic aridLevine (2003); Todaro and Smith (2003), FDI now accounts for

over sixtypercent (60%) of privatecapital flows. The flow of foreign directinvestment (FDI)

from Organization forEconomic Co-operation and DevelopedCountries (OECD) has been extremely rapidwith an average of about $4.5billion in 1996, up from anaverage of US $3.8 billionin 1991-1995 (World Bank 1997). Africa receivedabout 5% of total FDI flowsand FDI capital goesmainly into mineralextractions that is the petroleumindustry, manufacturingand

mining, withAngola, Egypt-Morocco andGabon attracting the-most (World Bank 1996). While the explosionof FDI flows is unmistakable, thegrowth effect remainsunclear (Carkovic & Levine 2002). Carkovicand Levin (2002) in OyatoyeArogundade, Adebisi and

Oluwakayode (2011) look at therational for offering special incentives toattract FDI to the

host countrybased on the belief thatFDI produces externalities in theform of technology

transfer andspill-overs.

FDI is thetransfer of foreigncapital in form of equityand other assets of internationalor multinationalcorporations. It may involve thejoint ownership between theforeigners and the government of thedomestic economy where thecapital is invested and it is calledthe joint venturecompanies. According to Egbo(2012), FDI is an investment madeto acquire a lasting management interest in abusiness enterprise in agiven country other than that of theinvestor defined accordingto residency. He added that FDI is acombination of merger andacquisition and newinvestments as well as the reinvestedearnings and loans from andsimilar capital transfers betweenparent companies and theiraffiliates. FDI is seen to play a keyrole in the growth anddevelopment process ofdeveloping nations, like Nigeria, whosehuman and material resources areunderemployed or not fullyemployed. According to Shiro (2008), foreign investments consist of foreign resourcessuch as technology, managerialand marketing expertise andcapital which have considerable impact on thehost nation’s production capacity.

## Foreign Portfolio Investment

Foreign portfolio investment is a cross-border investmentin securities with theintention of profit-making rather thanmanagement or legalcontrol. IMF (1993) defined foreignportfolio investment as equityand debt issuances includingcountry funds, dep1ository receiptsand direct purchases byforeign investors of lessthan 10% control. According toAyanwale and Adeolu (2007) foreignportfolio investment is one of thecomponents of foreigninvestment (FI). FP1I involves thecommitment of funds todomestic securities by a foreignnation or the purchase of foreignsecurities by aresident. In finance, ForeignPortfolio Investment is the entry of funds into acountry whereforeigners make purchase in thecountry’s stock and bond markets, sometimesfor speculation. It is a usuallyshort term investment, asforeign direct investmentpartnership, involving transferof technology and “knowhow”. FPI is possibly influenced by highrates of return and reductionof risk through geographicdiversification. The return on FPI is normallyin the form of interestpayments or non-votingdividends. It is a group of investmentassets that focuses on securitiesfrom foreign markets ratherthan domestic ones. It gives the investor anexposure to growth inemerging and providesdiversification allows investors to furtherdiversify their assets bymoving away from adomestic-only portfolio (Al Suqaier, & Al Ziyud, 2011).

Foreignportfolio investment (FPI) as anaspect of international capitalinflows involves the transfer offinancial assets: such ascash, stock or bonds acrossinternational borders in want of profit. It occurswhen investors purchase controllinginterest in foreign companiesor buy securities ornotes. Foreign portfolio investmentcomprise of debt and equityinvestments with financial derivativesrecently included. Just astrade flows result fromindividuals and countries

exploiting their owncomparative advantage, so too, arecapital flows the result ofindividuals and countries seekingto make themselves betteroff, by moving accumulatedassets to wherever they are likely to bemost productive (Ibrahim & Akinbobola, 2017). Thistype of investment has becomean increasing significantpart of the world economyover the past three decades and animportant source of fund tosupport investment notonly in developedbut also developing countries.

Conducive business environmentand strong legal systemhave been identified as amajor attraction of foreigninvestment. Irrespective of howvibrant a capital marketmay be, an unfriendly businessenvironment and weak legalsystem would not attractforeign portfolio investment. Nigeriabusiness environment has been marredby inconsistent powersupply, insecurity, bad roadsamong others as well asweak and slow judicialprocess (Chigbu & Ubah, 2015). The Nigeria businessenvironment is highly uncertainwith inconsistencies in government policiesand lack of transparency ingovernment operations. Theseunfavorable conditions may have discouragedsome foreign investorsfrom investing in thecapital and moneymarket.

Jenkins and Thomas (2002) examined thedeterminants of foreignportfolio investment (FPI) and its impacton the national economyin six developing Asiancountries. Regression results showed that inflationrate, index ofeconomic activity and the shareof domestic capital market in the world stockmarket capitalization are fourstatistically significantdeterminants of FPI. The first variable had anegative coefficientwhile the last threevariables possessed positive coefficients. Foreign directinvestment, total foreigntrade and current account deficitvariables were found to bestatistically insignificant. Regarding theimpact of FPI on thenational

economics, it was found that theindex of economic activitiesand inflation rate showedan upward trend. Volatility inportfolio flows increasedovertime. Ratio of foreign debtand debt servicing to GDPdeclined. But the rule of thumbregarding the issueof sustainability of FPI suggests thatIndia and Indonesia havecrossed the upper boundsof permissible debtratios.

Graham and Krugman (1995) stated that differencesbetween portfolio and directinvestors stem from the differencesin motivation and expectationfor these two types ofinvestment. For the foreign direct investor, thepurpose is control andoperations of anenterprise. Just as it will be slower and more costly for such an investorto commit to the hosteconomy, it will be slower and morecostly todivest. In themedium to longterm, he expects aprofitable operation. The portfolioinvestor, on the otherhand is interested inputting his funds wherethey get the maximum returnfor a given risk level. Portfolioinvestment will be faster tomove in search of higher returnsand or lower risk, and have a shortertime horizon. Therefore it will tendto be morevolatile. Volatility can be useful inproviding opportunities forprofit, or arbitrage, which will attract investorsand encourage marketefficiency. Volatility also indicates that themarket is seeking the bestallocation of capital for thecurrent economic opportunities. Butportfolio investment, with itsvolatility can also experience system-wide movementsof capital which can have broadeconomic repercussions. These differences inmotivation and attributes necessitatedifferences in policy approach for the twotypes of investment.

Increases in foreign portfolioinvestment in recent times havestimulated intense debates about its impact on Nigeriaeconomic growth. Proponents emphasize itspositive impacts on growth and financialsector development while critics expressconcern about its volatile naturewhose instability could beunsustainable and adverselyaffect the financial sector of theeconomy

(Ibrahim & Akinbobola, 2017). Foreign portfolioinvestment as part offinancial and capital account of balanceof payments consistsof equity securities, debt securities in theform of bonds and notes, moneymarket instruments andfinancial derivatives. IMF (1993) defined foreign portfolioinvestment as equity anddebt issuances including countryfunds, depository receipts and direct purchasesby foreign investors of less than10% control. To put itsimply, foreign portfolio investment is a cross-border investment insecurities with theintention of profit-makingrather than managementor legal control.

Nigeria democraticsystem has been consistently interrupted sinceindependence, military ruled the countryconsistently for seventeenyears between 1983and 1999, some political economist sawthis as a bane to theeconomic growth of thecountry and they perceivedthe recent growth in theeconomy as a productof political development in theeconomy. The relationship betweeneconomic growth and democracyhad attracted much discussionin the literature. However, theresearchers have notcome up with an exactanswer to questionof whether democracy promotes or prevents economicgrowth and the direction ofrelationship between them is yet to beestablished. So far consensus has not beenreached on this issue, more so there is no cleartheoretical evidence as regards the relationshipbetween democracy and foreign portfolioinvestment as well as other foreignresource flow (Gehringer, 2015). Thus the relationshipbetween democracy and economicgrowth is one of the widely dispute disuses in theliterature (Kanu, 2015).

Conventionally, democraticgovernance is more acceptable worldwideand thus enhances investor’s confidencein an economy. This is becausedemocracy is expected to reduce arbitrariness ofgovernment, provides lower risk of policyreversal, strengthens property right

protection (North & Weingast, 1989) and finally makes thecountry friendlier to the restof the world. In addition, Nigeria transition frommilitary to democratic rule in1999 may also serve as a door opener forinternational investors who may seize theopportunity to diversify their investment into theeconomy (Klein & Olivei, 2008).

## Trade Openness

The theoretical literature indicates that tradeopenness plays a vital role in theprocess of economicgrowth in the developingcountries. The trade openness is a keyelement of academic and policymusing for a severalreasons. First, the tradeopenness is an importantpart of the structural adjustmentprogram that wassupported by the World Bank andInternational Monetary Fund in variousdeveloping countries. Second, manyempirical studies are suggested the importanceof trade openness in economicgrowth through exports-led growthhypothesis and import-led growthhypothesis (Lawal, Nwanji, Asaleye & Ahmed, 2016).

Trade openness Equals the total sumvalue of a country’s exports andtotal imports as a ratio to the country’s GDP. The positive impactof trade openness on growth is in twoways. First, the export of goodsand services abroad earns thecountry more foreignexchange. As the foreignexchange increases, it improves thecountry’s current accountsurplus thereby putting it in a better positionto meet its international obligationsand even lend to othercountries. The Two Gap model argues that aneconomy trade inorder to gain surpluswhich is needed to fill the foreign exchangegap. A current accountsurplus is an indication of anincrease in net foreign assets. TheNeoclassical analysis onwelfare gain through comparativeadvantage

argues that reductionof trade barriers increasesthe level of productivityand trade (Wambugu, 2018).

The most basic measureof trade intensity is theratio of exports plus imports toGDP usually called TradeOpenness. In this regard, Trade openness (% of GDP) measured by thesum of imports and exportsof goods and services is used in thisstudy to determine whethertrade liberalization is aprecondition for financialliberalization. Controlling for tradeopenness allows examining the directeffects of financial liberalization oneconomic growth. It enables us to examine the effectof a simultaneous openingof both trade and financial marketson economic growth indirectlythrough financial development (Orji, 2014). Tradeopenness is measured with tradeopenness index. Trade OpennessIndex is an economic metriccalculated as the ratio of country'stotal trade, the sum ofexports plus imports, to thecountry's gross domesticproduct. The interpretation of the OpennessIndex is the higher the index the larger the influence of trade ondomestic activities (Mujahid & Alam, 2014).

## Foreign Remittances

Remittance has been defined bymany scholars from different disciplinesand organizations. Remittancesto be the fraction of amigrant workers incomesent from the countryof employment to thehome country. Larsson and Angman (2014) definedremittances as money- transfers, earned byworkers abroad and sent topersons in their country oforigin. Tewolde (2005) as cited byOluwafemi and Ayandibu (2014) saw remittances to beboth monetary and physical resourcesthat are earned and acquired bymigrants as they ply their tradeabroad. These are whatmake up what they sendto their loved ones backhome in their home countries.

Chami et al (2008) are of theopinion that remittancesare solitary and are notmarket-based individual exchangesbetween families acrossnations. According to Englama (2007), the definition of remittancesadopted by countries is thatof the Balance of Payment Statistics Manual of the InternationalMonetary Fund (IMF), where remittances arecomprised of 3 components namelymigrant transfers, employees’ compensationand remittances of workers.

Remittances are the portion of internationalmigrant workers’ earnings sent backfrom the country of employment to thecountry of origin, and play acentral role in the economies of manylabour-sending countries. Workers’ remittances consist ofgoods orfinancial instruments transferred by migrants living andworking abroad toresidents of thehome economies of the migrants. It is limited totransfer made by workers who have stayedin foreign countries for at least one yearwhile workers who are self-employed are excludedIMF, 1999).

According to Kihangire and Katarikawe (2008), remittance is defined asmoney sent home by migrants workingabroad to their home countries. Similarly, remittance as been definedhas a portion of migrantworkers earnings sent to their countriesof origin and this could be incash or gifts (Chukwuone2007). Moreover, IMF (1999) maintains thatremittance is limited to money sent by migrantworkers who have been staying in a foreigncountry for more than a year to his/herhousehold in his/her country of originand this does not include migrantsthat are self-employed.

Similarly, Tewolde (2005) argues thatremittances are financial and non-financial materials that migrantsreceive while working overseasand sent back to their householdsin their countries of origin. Ratha (2003) also defines remittances asmigrants’ funds transfers, which are resources that amigrant convey into or takes out of acountry. Consequently, International

Organization forMigration (2006) largely definesremittances as the monetaryflows connected to migration, that iscash transfers by migrants orimmigrants living abroad to arelation in home countries. International LabourOrganization (2000) also defined remittanceas part of migrant workers’ incomeremitted back from their employment countriesto their countries of origin.

Over the years there has been growingnumber of theoretical literaturewhich provided rational for migrants remittingfunds to their homecountry. These include PureAltruism Theory, Implicit FamilyAgreement Theory and PortfolioManagement Decision Theory. Accordingto Kaasschieter (2014), pure altruismtheory is anchored on themotive for migrant remitting money homeout of concern for thewellbeing of his family and associatesin his or her home country. This theory isanchored on three basic assumptions. First remittance is afunction of the immigrantincome. Second is the level of incomeof the migrant family andassociates in the homecountry (The higher such income, the lesser theremittance and viceversa). Third is the level of attachmentto the family memberby the migrant (The higher theattachment, the higher theremittance). However the levelof attachment is inverselyrelated to the numberof years the migranthave been residingabroad. On the other hand theimplicit family agreement theory propoundedby Lucas and Stark (1985), emphasises howmigrants and family athome develop an implicitcontract that will mutuallybenefits all frommigration. The contract normally combines elementof investment andrepayment. In the loan repaymenttheory, the family invests in theeducation of themigrant as well as the costof migrating. The repayment of theprincipal and interest will commence viaremittance after the migrant has beengainfully settled (Kaasschieter, 2014).

This theory was buttressed byempirical work of Poirine (1997). The portfoliomanagement decision theory was based onmacroeconomic factors in both hostand home countriesof the migrants thatsignificantly influence the flow ofremittance. Among suchmacroeconomic factors identified inliterature are; savings rate, inflationrate, exchange rates, government policies and politicalstability (Prakash, 2009).

## Official Development Assistance (ODA)

Official development assistance is a term associatedwith the DevelopmentAssistance Committee (DAC) of theOrganisation for Economic Cooperationand Development (OECD), to serve as an indicatoror measure of international aidflow. It is a government aidaimed at promoting economicdevelopment and welfare ofdeveloping economies. Such aidscan be direct from the donorto the recipient or it can passthrough a multilateral developmentagency like the United Nationsand the World Bank. Official DevelopmentAssistance (ODA) could also be calledForeign aid. ODA consists ofgrants or loans that onegovernment or multilateral organizationgives to a developingcountry to promote economicdevelopment and social welfare (Girma, 2015).

The Development AssistanceCommittee (DAC) of the Organization forEconomic Cooperation andDevelopment (OECD) also defines aid asOfficial Development Assistance (ODA) whichqualifies on three criteria:

* + - 1. It is to be undertakenby official agencies;
      2. it is to have the main objectivesof promoting economic developmentand welfare
      3. It has to have a grantelement of twenty fivepercent or more.

However, Inanga andMandah (2008) conceptualised foreignaid (ODA) as an international transfer ofcapital, goods, or servicesfor the benefit of othernations. Inanga and Mandah (2008) further noted thatthese aids come in forms ofcapital transfers in cash orkind, either as grants or loans. Technical assistanceand training are part of officialdevelopment assistance and usually comeas grants in the formof human resources andtechnical equipment, and militaryassistance in the form ofeither equipment ortraining advisors.

Official development assistance (ODA) orforeign aid has been an importanthuman capital developmentfactor in humanhistory. According to (Niyonkuru, 2016), ODAprovides assistance tocountries’ development. These aids mayinclude social infrastructureand economic infrastructureservices’ aid and production sector’said. Social infrastructurein this case includeseducation, water supplyand sanitation, all with the aim to improvehuman development andeventually contribute to long-termsustainable economic growth (Addison & Tarp, 2015). Besides, economicinfrastructure aid doesimprove energy, transportand communicationssystems in the recipientcountries. On the other hand, productionsector’s aid is aimed foragriculture, forestry and fishingindustry, mining and constructiontrade and tourism. It may also attractFDI flows which further contributepositively to the growth. As (Morrissey, 2001) suggests, there can beseveral positive channels throughwhich ODA impacts economicgrowth such as “aid increasesinvestment in physical and humancapital, aid increases thecapacity to import capitalgoods or technology, aid does not haveindirect effects that reduces investmentsor savings rates, and aid is associatedwith technology transfersthat increase theproductivity of capitaland promotes endogenoustechnical change”.

The importance of foreignaid was specifically recognized in theMillennium Development Goals (MDGs) initiativesblueprint so as to meet theneeds of 148countries. A 0.7% ODA/gross nationalincome (GNI) goal was set by theUnited Nations’ decision back in1970. With this commitment, eachadvanced country was supposed toprogressively increase its ODA assistanceto the 148 countries by2015; however, this goal was notachieved. This was because majorityof these countriesdo not achieve the targetof 0.7% (Ekwe & Inyiama, 2014).

Theoretically, the mainrole of foreign aid instimulating human capitaldevelopment is to supplement domesticsources of finance suchas savings, thus increasing theamount of investment andcapital stock. Morrissey (2001) points out, there are anumber of mechanisms through whichaid can contribute tohuman capital developmentincluding: (a) increased investment, in physicaland human capital; (b) increasedcapacity to import capitalgoods or technology; (c) lack ofindirect effects that reduce investmentor savings rates; and (d) transfer of technology thatincreases the productivityof capital and promotes endogenoustechnical change (Chipote, Mgxekwa& Godza, 2014).

There are four strands ofliterature on the roleof foreign aid on human capital development. The first studies claim that foreign capital inflow is necessary andsufficient for human capital development in lessdeveloped countries. They assert thatthere is a positive relationship between aid andhuman capital developmentbecause it not onlyaugments domestic resources, but also supplementsdomestic savings, assists inclosing the foreign exchangegap, creates access to moderntechnology and managerialskills, and allows easieraccess to foreign markets, ultimatelyleading to human capitaldevelopment (Akanyo, & Ajie, 2015; Obadan, 2011).

The term foreign aid isgenerally used in thesense of flow of resources fromthe rich countries to the poor underdeveloped countries At somepoint, ‘all real resourcetransfer’ from developed tounderdeveloped or developingcountries were included asforeign aid and this raised conceptualproblems because it includescertain resource transferwhich do not essentially qualify asforeign aid. Riddell (2007) also definedforeign aid as comprising all kinds of resourcesranging from physicalmerchandise, skills and technicalknow-how, financial grantsincluding gifts, and loanswhich are given to recipients bydonors at concessional rates.

Official development assistance can come in the following ways:

1. **Project Aid:** Project aid is dominatedby funds channeled to interventions insectors such as health, education, ruraldevelopment including agriculture, transportand power, housing, and water supplyand sanitation. However, smallamounts of project aid arechanneled to industrial, mining, trade andcultural projects (Riddell, 2007) as cited in (Conchesta, 2008). Many ODA funded developmentprojects aim at achieving specificoutputs by providingresources, skills and systemswhich the recipientcountry needs.
2. **Programme Aid:** Programme aid is definedby OECD as financial contributionsnot linked to specificactivities. The programme aid isdivided into two forms, the balanceof payments (BOP) supportand the budget support. Underthe budget support, aid funds are providedto boost aggregaterevenue and increase overallspending. Aid funds channeled toministries of finance are termed asGeneral Budget Support (GBS) while thosechanneled to particular sectors aretermed as Sector BudgetSupport (SBS). Under the GBS, donorsprovide funds for

implementation of developmentand poverty alleviating strategiespaying attention to the capacity of the recipientgovernments to use fundsefficiently (Chinwuba & Amos, 2011).

1. **Technical Assistance:** Technical Assistance (TA) includes theprovision of skills, knowledge know-howand advice. For many decades, technicalassistance has alsobeen provided in form ofteaching staff mainly in primaryand secondary education indeveloping countries. Furthermore, morespecialized trainers havecontinually performed skillstraining functions to meettheir needs and toachieve their immediateobjectives (Conchesta, 2008).
2. **Humanitarian Aid or Emergency Aid:** The definitionof humanitarian aid isdefined according to itspurpose, that is, ‘’to save livesalleviate suffering and enable thosesuffering to maintain (or retain) theirhuman dignity during and in theaftermath of naturaldisasters and man-madecrisis’’. Humanitarian aid has beensuccessful in most cases inachieving its tangible outcomessuch as saving lives, providing foodto the hungry; healthcareand medicines to those vulnerable toacute disease in emergenciesand water, sanitation andshelter to those whose homeshave been destroyed. However, thesustained internal conflicts in warrone areas reduce resourcesto meet developmentobjectives as moreresources aredirected to meet humanitarianneeds (Girma, 2015).
3. **Food Aid:** Food aidcomprises of programmefood aid and humanitarianfood aid.

Programme foodaid may relieve the foreignexchange constraint to importnecessary intermediateinputs or by providingfiscal resources throughcounterpart funds generated by the local sale ofprogramme food aid (Bashir, 2013). Theseresources can be used by therecipient country to investin agricultural researchand extension and improvementof rural infrastructure in particular. However, programmefood aid may have Dutch diseaseeffects on domestic food

producers andthus hurting the foodsector’s competitiveness in theworld markets (Girma, 2015).

## Financial Deepening

Financial deepening involves acombination of several activitiesand institutions. Olukorede (2013) notes that indeveloping economies, the term isassociated with increases in theactivity of financial intermediaries,like commercial banksand savings institutions. Indeveloped economies, financialintermediation is often dominatedby direct placement or capitalmarkets. But for developed countries, financial intermediation is measuredby the proportion of national wealth held through financialintermediaries. Put differently, this is measuredby the ratio of the consolidatedassets of each nation's financial intermediariesto national output. The concept of financialdevelopment has a far reachingimplication as it is not onlybeneficial at the time of itsintroduction but continue tomodify the way things aredone afterwards. That is both the institutionand structures and processof financial market activities areaffected in a positive way bythis introduction. It then followsthat there would bedeliberate regulatory framework giventhat financial deepening isdynamic. Put differently, banking supervisionhas to beconsidered as the new face offinancial development (Demetriades& Rousseau, 2011).

Ideas and concepts surroundingfinancial deepening can betraced to the works ofKeynes. In the Keynesiantheory, financial deepeningoccurs due to an expansionin government expenditure. Keynesopined that in order to reachfull employment, the governmentshould inject moneyinto the economy byincreasing governmentexpenditure. It follows that increase in governmentexpenditure increases aggregatedemand and income, thereby raisingdemand for money. Disequilibriumsituation is usually the result when thishappens and this is

resolved by reducingprivate investments resultingfrom higher interest rates. Sincehigher interest rates lowerprivate investment, anincrease in government expenditurepromotes investments and reducesprivate investmentsconcurrently. But McKinnon (1973) and Shaw (1973) disagree with thistheory and came up with arival hypothesis that depicts apositive relationship betweeninterest rate and financialdeepening. They opined thatdeveloping countries have repressedeconomies with ceilings oninterest rates and limitations incredit availability whichimpose restrictions ongrowth (Hemachandra, 2003).

The relationship between financialdeepening and economicgrowth can be expressed inthree differentways. They are: supply leadinghypothesis, demand followinghypothesis and bi- directionalcausality. According to them, supply leadinghypothesis supports a positiveimpact of financial deepeningon economic growth. It then implies thatfinancial deepening impacts on the level ofdevelopment in everyeconomy. They explained thatdemand following hypothesis states thatfinance actually responds tochanges that happen in thereal sector. Put differently, variations in thestock of financial assetswould be a function ofgrowth in the real sector of theeconomy. Bi-directional causality hypothesis, accordingto them is somewhere between thesetwo in that it claims mutualimpact of finance andgrowth (Karahan & Yilgor, 2011).

There are three stages offinancial deepening. At first stageor region one, according to them, the economy isunderdeveloped andvirtually every transaction isdone with cash asthere is little or no trustamong theplayers. More so, the supplyof private paper is smalland agents’ savings demandcan be satisfied only throughthe use of outside moneygreen paper, which has zero net return. At thesecond region, is more financiallydeveloped economies, withhigher

degree of trust. In theseeconomies there is a liquiditypremium and investingagents supply insidemoney, red paper, bybundling part of theoutput from theirprojects. Savers use specialized instrumentsas there exist specializedfinancial markets. At the thirdstage is the existence of economywith a reasonablyabundant supply ofbonds. In such economy, ifbond is too costly there is animbalance, with toolittle money relativeto bonds. In responseto the liquidity shortage, theeconomy makes a remarkableresponse. Each agent holds anelaborate overlapping savingsportfolio as a meansof getting round theinconvenience ofhaving to keep the illiquidbonds over two nightsuntil theymature (Kiyotaki & Moore, 2005). Finally, financial sectordevelopment entails establishingrobust financial policiesand regulatory framework. The absenceof adequate financial sectorpolicies could have disastrousoutcome, as illustrated by theglobal financial crisis. Financial sectordeepening has heavyimplication on economic development-both when itfunctions and malfunctions.

Onwumere, Ozoh and Muonanu (2012) noted that financialdeepening can be explainedfrom the following perspectives:

**Analyzing the Market Depth**: One of thepopular approaches to analysingfinancial deepening is lookingat it from a markets and sectorialperspective. Here the set ofmarkets is expanded beyond corebanking sector. Here nonbank institutionslike insurance companies, pension fund administratorsand foreign investors areincluded. This inclusion is necessitated by the factthat each typeof market provides adifferent set of opportunitiesfor investment and risk, and has itsrudiments. More so each of theparticipants has itscontribution to themarket. For example, whilebanks transformmaturities (borrowing short term tolend long), pension funds and insurancecompanies invariably matchmaturities (borrowing andlending long term),

making them naturalbuyers of longer-termbonds and facilitating thedevelopment of these markets.

**A Balance Sheet Approach:** This approach placesemphasis on the capacityof the economy to manage its aggregatebalance sheet in asmooth and balanced mannerand its swift response to shocks. In thisorder, a deep financialsector is one that facilitatesthe orderly andbalanced growth of itsbalance sheet (i.e., with expansionor contraction that is not toorapid, excessive, or unsustainable) andallows for smooth adjustmentto shocks. Such capacity is afunction of the following:

1. The structure ofbalance sheets (e.g., maturity of debt, size of rolloverneeds, - currency composition ofliabilities);
2. The ability of varioussectors to issueclaims in a cost-effectivemanner (e.g., if the corporate sector mustdeliver, the aggregateeffects can be attenuated if thehousehold sector can countercyclically expand itsbalance sheet)
3. The ability of thegovernment to employcountercyclical macroeconomicand financial policies andserve as a lender of lastresort
4. Prudent financial regulation andsupervision

## Economic Growth

Economic growth is theincrease in the amountof the goods and servicesproduced by economy overtime that is anincrease in the capacity of aneconomy to produce goodsand services, comparedfrom one period of timeto another (Lawal, Nwanji, Asaleye& Ahmed,

2016). It is measuredas a percentage of grossdomestic products GDP of acountry. Economic growth is regardedas a major goal ofnational policy in any giveneconomy. Economic growth is the rise in thetotal output (goods or services) producedby a country (Abbas, 2005). It is an increase in the capacityof an economy toproduce goods and services, comparedfrom one period of time toanother. Economic growthoccurs whenever people takeresources and rearrange them inways that are morevaluable. Economic growthrefers only to thequantity of goods and servicesproduced; it says nothingabout the way in which they areproduced. Lipsey (1986) defined economicgrowth as the positivetrend in the nationstotal output overlong period of time. This implies asustained increase in GrossDomestic Product (GDP) for along time. Schiller (1999) opined thateconomic growth is anincrease in output(real GDP), an expansion in productpossibility curve.

Ayres and Warr (2006) defineeconomic growth as 'a rise in thetotal output (goods or services) producedby a country'. It representsan increase in the capacityof an economy to produce goodsand services, comparedfrom one periodof time to another. Economicgrowth refers only to thequantity of goods andservices produced. Economic growthcan be measured in nominal termsincluding inflation, or inreal terms, which areadjusted for inflationlike by the percent rate ofincrease in thegross domestic product (GDP). Economicgrowth measures growth in monetaryterms and looks at noother aspects ofdevelopment (Illyas & Siddiqi, 2010). Economic growthcan be either positive ornegative. Negative growth can bereferred to by saying that theeconomy is shrinking. Negative growth is associatedwith economic recessionand economicdepression (King & Levine, 1993).

Jhingan (2005) conceptualizedeconomic growth as agradual and steadychange in the long- run which comesabout by a general increase in therate of savings andpopulation. It has also been described as apositive change in thelevel of productionof goods and servicesby a country over a certainperiod of time. Economic growth is measuredby the increasein the amount of goodsand services produced in acountry. An economy is said to begrowing when it increases itsproductive capacity which lateryield more in productionof more goods andservices (Jhingan 2005). Economic growth is usuallybrought about bytechnological innovation and positiveexternal forces. It is theyardstick for raising thestandard of livingof the people. It also implies reductionof inequalities of incomedistribution. Economic growth can be measured innominal or real term. In nominalterm it includesinflation, while in real term, adjustment ismade for inflation toeliminate thedistorting effect of the priceof goods and services produced. For thepurpose of inter –countrycomparison, the GDP or GNP percapita income is used dueto the fact thatthey take intoaccount the populationdifferences of these countries. The topeconomic goal ofNigeria is to have asustainable economic growthand development proxiedby gross domesticproduct. It is the total amountof goods and services produced withinthe economy perannum. Economic growth is seento be a measure of increase in the nationalincome or total volumeof production of goodsand services of acountry accompanied byimprovements in thetotal livingstandard of thepeople (Chinwuba & Amos, 2011).

Economic growth can beeither positive or negative. Negativegrowth can be referredto by saying that theeconomy is shrinking. Negative growth is associatedwith economic recession and economicdepression. Gross national product (GNP) is sometimesused as an alternative

measure to grossdomestic product. In order tocompare multiple countries, thestatistics may be quoted in a singlecurrency, based on eitherprevailing exchange rates orpurchasing power parity. Then, in order tocompare countries ofdifferent population sizes, the percapita figure is quoted. To compensate forchanges in the value ofmoney (inflation or deflation) the GDP or GNP is usually given in "real" or inflationadjusted, terms rather than theactual money figure compiled in agiven year, which is called thenominal or current figure (Ayres, Robert, Warr, 2006).

## Financial Integration and Economic Growth

Financial integration is believed toaffect the real economythrough at least twobroad channels. First, the sizeof the financial sector and thevolume of available credit areseen as a proxy indicator for howeffectively the sectormanages to collect savingsand allocate them to productiveinvestments. This transfer offunds not only raisesproductive capacity but should also enhance theefficiency of the economyby reallocating fundsfrom least to most productive investments. A secondchannel relates to thecapacity of the financialsector to absorbshocks. An effective financialsector will raise thepossibilities for householdsand enterprises tohedge against risksand systemic shocks (Bloch & Tang, 2003).

Theoretically, financialintegration promotes development of the financialsystem and economicgrowth (McKinnon & Pill, 1997). Financial integration advances theworking of the financial systemthrough two main channels. First, financial integration increases theflows of funds and enhances financialinfrastructure through reduced asymmetric informationwhich, consequently, decreases adverse selectionand moral hazardand enhances the availabilityof

credit (Unite & Sullivan2003 and Mishkin, 2006). Secondly, financial integration leads to morecomprehensive, stable, andeffective financial marketsand, as a result, increases economic growthand development (Levine, 2001).

The standard open economy neoclassical-Solowmodel provides the foremost and lasting argument forcapital account liberalizationand financial integration (La Marca, 2004). Thus, under financialopenness, real interest ratedifferential between capital-abundantcountries and capital-scarce countrieswould lead to theflow of funds to thecapital-scarce countries as foreign savingsneeded for investmentand growth. Financial integration will cause thenatural flow of fundsfrom the capital-abundantdeveloped economies to thecapital-scarce developing economies whichwould ultimately lead to an “unconditional” convergence inportfolio (asset) returns, capitalintensity, technology andper capita incomes.

Financial integration improvesmacroeconomic policy-making andencourages the implementation of pro-growthreforms by imposing disciplineon governments (Goldberg, 2004). It strengthens corporategovernance through a more competitivemarket for corporate control; improvescountry risk-sharing (Boyle, 2009); enhances productmarket competition through the inflowof new, internationally operatingenterprise and portfoliodiversification (Armanious, 2007) and directscapital flows to the mostefficient and productive useand ensure that executives are performingat their best (Mishkin, 2003).

Through financial integration, foreignfinancial institutions bring to domesticfinancial markets best corporatepractices and experiences that which are likely toencourage technology transfer todomestic financial institutions (Goldberg, 2004). Entry of foreign financialinstitutions helps improve domestic prudentialsupervision becausesupervisors are

now able to see what riskmanagement practices are successfullyused in foreign institutions and insist that they beadopted bydomestic institutions (Mishkin, 2003).

However, despite its notableadvantages, financial integration has beenclaimed to expose a country to capital flightand financial crisisand financial malpractices (Boyle, 2009). Rogoff, Kose, Prasad and Wei (2006) note thatfinancial market integration can heighten acountry’s vulnerability tomacroeconomic instability and financialcrisis if a country’s financialmarket is imperfect. The imperfections in financial market can generate speculativeattacks’ bubbles, and herding behavioramong others. Imperfections in international financialmarkets may also lead to financial crises even incountries with soundfundamentals. It was also pointed outthat inadequate financial infrastructureduring the process ofintegration can weaken thehealth of the local financial marketand increase itsvulnerability (Lane & Mislesi-ferretti 2006).

Hence, for countriesto benefit from financialintegration, Mishkin (2006) points outsome prerequisites whichinclude: developing strongproperty rights, strengthening the legalsystem, reducing corruption, improving thequality of financial information, improvingcorporate governance, andgetting the government outof the business of directingcredit.

## Foreign Direct Investment Inflow and Economic Growth

In most developing countries, Foreign DirectInvestment (FDI) serves as a meansof earning foreign reserves viainvestments, businesses and foreignaids from advancedcountries. FDI is considered a valuable sourceof finance and capitalformation, Technology-Transferand know- how, as well as a viablemedium for trade amongcountries. The Spillovereffect also allows for the transferof innovations and inventionto the receiving countries, oneof which Nigeria

belongs. According to therequirement for acceleratedgrowth in associationwith the Sustainable DevelopmentGoals is not completelyclear, however, for economies toexperience sustainable and inclusivedevelopment, cross-bordertrade is paramount (UNCTAD, 2019). Given this backdrop, there is littlewonder that the last fewdecades have witnessed a phenomenalupsurge in the flow offoreign direct investment (FDI) to developingcountries. The low income countries in theirdevelopmental process are becoming increasingly conscious of the fact that FDI is amajor stimulus to economicgrowth and developmentgiven the inadequacy offinancial resources, technologyand skills. Several otherreasons can be adduced for thedramatic increase in the inflowof FDI to developingcountries. These include low levels ofdomestic savings, underdevelopedfinancial sector as evidenced in thelimited capacity to harnessdomestic financial resources amongother factors. Furthermore, thenew wave of globalization, has added moreimpetus to the flowof FDI to the hostcountries (Maghori, 2014).

Foreign direct investment has beendebated to be an importantvehicle for the transferof technology, contributing togrowth in larger measures often more thandomestic investment. Therefore, the need forgovernment to provide specialincentives in order to motivateforeign firms to set upcompanies in the countrybecomes important. Carkovic and Levine (2008) note that economicrationale for offering specialincentives to attract FDI frequentlyderives from the belief thatforeign investment producesexternalities in the form oftechnology transferand spillover benefits.

Foreign direct investment (FDI) has played aleading role in manyof the economiesof the Africa. There is a widespreadbelief among policymakers thatforeign direct investment (FDI)

enhances the productivityof host countries and promotesdevelopment (Antwi, Atta Mills, Atta Mills, & Xicang, 2013). Althoughempirical studies offer rich insightson the impact of FDI and economicgrowth in host country, it providesmixed evidence on theexistence of its effect and role. Besides tocontribute the domesticinvestments, FDI enhances theforeign technologyabsorptive capacity, assists ininnovation and technologytransfers and management skills, promotes internationaltrade integration and forces tostrength the competitive environment in ahost country.

Ample of studies suggest that thesignificant positive effects while somestudies find no independent effectof FDI on host countryeconomic growth. Moreover, theexisting studies have mostly focusedon explore impact ofinward FDI on host country economicgrowth. For example De-Mello (1999)suggests that whetherFDI contributes to theeconomic growth depends on quantumof skilled labour in hostcountry. Borensztein, De-Gregorioand Lee (1998) also establishedthat although FDI has apositive impact on GDP, themagnitude of effect depends onhuman capital level. In thesame vein, Xu (2000) finds that FDIbrings technology and itforces into higher economicgrowth only when the hostcountry has minimum thresholdlevel of humancapital. Alfaro (2003) finds that total FDI anambiguous effect on hostcountry economic growth; FDI inflows intoprimary sector tend+ tohave negative effecton growth, manufacturingsector has positivespillover. Balasubramanyan, Salisu andSapsford (1996) find that FDI enforceseconomic growth and its effect isrelatively stronger forcountries that pursue outwardoriented trade policy.

On the other hand Lyroudi, Papanastasiouand Vamvakidis (2004) show that thereis no significant relationshipbetween FDI and economic growth. Otherstudies like Najia Maryam

and Nabeel (2013) indicates thatPakistan’s economicperformance is negatively affected by foreign investmentwhile its domestic investment has benefitted itseconomy. Similarly, Awe (2013) reports a negativerelationship between economicgrowth proxied by GrossDomestic Product (GDP) and ForeignDirect Investment (FDI) as a resultof insufficient FDI flow into the Nigerianeconomy. Also, Basem andAbeer (2011) econometric resultshows that FDI inflows do not exert anindependent influence oneconomic growth.

While the FDI-growth linkage is stillambiguous, most macroeconomicstudies nevertheless support the notion of a positiverole of FDI within particulareconomic conditions. There are three main channels through which FDI can bring about economic growth. The first is through the release it affords from the binding constraint of domestic savings. In this case, foreign direct investmentaugments domesticsavings in the process of capitalaccumulation. Second, FDI is the mainconduit through which technologyspillovers lead to anincrease in factor productivityand efficiency in theutilization of resources, which leads togrowth. Third, FDI leads to increase inexports as a result ofincreased capacity andcompetitiveness in domesticproduction. This linkage is oftensaid to depend on anotherfactor, called “absorptive capacity”, which includes thelevel of human capitaldevelopment, type of traderegimes and degree ofopenness (Ajayi, 2006).

## Foreign Portfolio Investment Inflow and Economic Growth

Growth of foreigncapital inflows to emergingworld since the end of the 20thcentury has stimulated debateamong the scholars likeMarkowitz (1952); Tobin (1958) andBlume (1970). This is attributed tochange in differenteconomic fundamentals andcountry specific conditions across the globe. Foreigncapital flows play animportant role in theeconomy of every

developing andemerging country. These flowsbridge the investmentgap and fill thecapital needs of acountry at the domesticand international level. In thepresent era of globalization and financialliberalization, foreign investors fromvarious countries of theworld are willing to

invest in the restof the world. Foreign portfolioinvestment is becoming acommon form of

investment inmany countries of the world. Foreignportfolio investors, as comparedto foreign

direct investors, are ashort term investorsand their purpose is tospeculate the marketboom.

International capitalinflows can play auseful role in developmentof every economy by

adding to thesavings of low and middleincome countries inorder to increase thepace of

investment. However, foreign investmentalso can prove unproductiveto developing

economies by exposingthem to disruptionsand distortions fromabroad, and bysubjecting

them to surges ofcapital inflows ormassive outflows ofapital flight (Sethi, 2013).

Developing countriesin particular, are strivingto grow their economies. Oneof the waysto

grow theeconomies is by attractinga substantial numberof foreign portfolioinvestments. This

notion is based onreported evidence byother authors thatthe benefits oftransferring

technology, internationalcooperation, andemployment creation arebetter enhanced through

attracting foreignportfolio investment (OECD, 2008 &UNCTAD, 2014). Anincreasing

amount of foreignportfolio investment has beenobserved flooding intodeveloping markets.

Asiedu (2002) argues thateach country has its ownattractions. Therefore, what maydrive

foreign portfolioinvestment in one regionmay not drive it inanother. Stable socioeconomic and politicalenvironment is fundamental inattracting foreign investmentand making it beneficial to thehost economy. It is on this backgroundthat Nigeria liberalized hereconomy and capitalmarkets, as well asimproved its capitalmarket facilities and returnedto stable

democratic among otherthings. Portfolio investment is arecent phenomenon inNigeria. It was from mid 1980s thatNigeria started torecord any figure onportfolio investment (inflowor outflow) in herbalance of paymentsaccount.

Foreign portfolio investment increases theliquidity of domesticcapital markets, and can help develop marketefficiency aswell. As markets becomemore liquid, deeper andbroader, a wider range ofinvestments can befinanced and new enterpriseshave a greater chance ofreceiving startup financing. Savers have moreopportunity to invest with theassurance that they will be able to managetheir portfolio, or sell theirfinancial securities quickly if theyneed access to their savings. In thisway, liquid markets canalso make long-term investmentsmore attractive. Foreign portfolioinvestment can alsobring discipline andknow-how into the domesticcapital markets. In a deeper, broadermarket, investors will havegreater incentives toexpend resources in researchingnew or emerginginvestment opportunities. As enterprisescompete for financing, they will facedemands for betterinformation, both in termsof quantity and quality. This press for fullerdisclosure will promotetransparency, which can havepositive spill-over into other economicsectors. Foreign portfolio investors, without theadvantage of an insider’s knowledge of theinvestment opportunities, are especiallylikely to demand a higherlevel of information disclosureand accounting standards, andbring with them experienceutilizing these standards and aknowledge of how theyfunction. Foreign portfolioinvestment can also help to promotedevelopment of equitymarkets and the shareholdersvoice in corporate governance. As companiescompete for finance, the marketwill reward betterperformance, better prospectsfor future performanceand better corporate governance.

As the market’s liquidityand functionalityimproves, equity prices will increasinglyreflect the underlying valuesof the firms, enhancing themore efficient allocationof capital flows. Well- functioning equitymarkets will alsofacilitate takeovers, a pointwhere portfolio anddirect investmentoverlap. Takeovers can turn apoorly functioning firminto an efficientand more profitable firm, strengtheningthe firm, the financialreturn to its investors, and thedomestic economy. Foreignportfolio investors mayalso help the domesticcapital markets by introducing moresophisticated instrumentsand technology formanaging portfolios. For instance, they maybring with them afacility in usingfutures, optionsswaps and other hedging instruments to manageportfolio risk. Increased demandfor these instrumentswould be conducive to developingthis function indomestic markets, improvingrisk management opportunities forboth foreign anddomestic investors. In thevarious ways outlinedabove, foreign portfolio investmentcan help to strengthendomestic capital marketsand improve their functioning. This will lead to abetter allocation ofcapital and resources in thedomestic economyand thus a healthiereconomy. Open capital marketsalso contribute toworldwide economic developmentby improving the worldwideallocation of savings andresources. Open markets give foreigninvestors the opportunityto diversify their portfolios, improvingrisk management andpossibly fostering a higher levelof savings and investment.

Baghebo and Apere (2014) explains therelative importance ofportfolio investment to asmall emerging economylike Nigeria cannot beoveremphasized, the positiveattributes of foreign portfolioinvestment include technologicaltransfer, increasein productivity, highincome, increase in governmentrevenue through taxesenhancement of balanceof payment ability, employment generationdiversification of theindustrial base andexpansion, developmentof

existing industries.Bada, (2017) defined ForeignPortfolio Investment as aspectof foreign capital flows whichconsist of transfer of financialassets such as cash, stockor bonds across borders with thedesire to makeprofits. This occurs wheninvestors purchasenon-controlling interests in foreigncompanies or buy foreigncorporate or governmentbonds, short-term securities, ornotes. Also, as highlighted byPazarlıoglu and Gulay (2007) foreignportfolio results incontribution to the hostcountries‘ capital accumulation and production capacity, new technology and knowledge, contributionto the improvement of thecountry's balance of payments, new salesand marketing techniques, newbusiness opportunities, and hightax revenue. Foreign capitalalso has various effects on thehost country’s production, employment, income, balanceof payments andeconomic development. Despite these merits of FPI, there existsome demerits.

Furthermore, the consensus in theliterature seems to support thatforeign investment increases growth through productivityand efficiency gains. The empirical evidence is notunanimous. However, available evidence fordeveloped countries meet the ideathat the productivity of domestic firms is positively relatedto the presence of foreignfirms (Imbriani & Reganeti, 1997). The resultsof developing countries are, not soclear, with some finding disclosed positivespillovers, (Blomstrom, 1986) andothers reporting limitedevidence. Also, others find out that there is no evidenceof positive short runspillover from foreignfirms. Some of the reasons adduced forthese mixed results are theenvisaged forward and backwardlinkages may not really necessaryand the arguments thattransnational companies encourage increased productivity due tocompetition may not be true inpractice. Other reasons include thefact that transnational companiestend to locate inhigh productivity industries and, thereforecould

force less productive firmsto exit (Smarzynska, 2002). Cobham (2001) also assumedthat their is crowding outof domestic firms and possible contractionin the total industry and or employment. However, crowdingout is a more rare event and thebenefit of foreign direct investment inexport promotion remains controversialand depends crucially on themotive for such investment (World Bank, 1998). The previous literatures appearto be that direct and indirect investmentspillovers depend on thehost country’s capacityto absorb the foreign technologyand the type ofinvestment climate. The review shows that thedebate on the impact of foreign directinvestment on economicgrowth is far from being conclusive. The roleof foreign portfolio investment may beeither be positive or negativeor insignificant, depending on the economicinstitutional and technological conditionsin the recipient countries.

## Trade Openness and Economic Growth

Recent years have witnessed increased research attentionon the nexus betweentrade openness

and economic growth indeveloping economies. This development is motivated by

theincreasing integrationof economiesat the global level (Shahbaz, 2012), and the belief that

trade liberalization is arequired condition foraccelerating the transition from arelatively

closed to openeconomy (Zahonogo, 2016). Theoretical literature suggests thatinternational

trade promotes thetransfer of new technologies, facilitatetechnological progress, and

innovationand that these conditions dependon the degree ofeconomic openness (see Grossman & Helpman, 1991). This explanation has often been anincentive for the implementationof trade liberalization policies indeveloping economies (Zahonogo, 2016).

In the late1980s and early 1990s, a newwave of trade theoryemerged, focusing on thestudy of the dynamic linkagesbetween international tradeand economic growth. Rather than looking at the gainsfrom trade at acertain point in time - the static view - economiststhen wanted to understand themechanisms through whichtrade affects growthand how thesemechanisms evolve overtime - the dynamicview. A key channel throughwhich trade can lead to economic expansion is productivitygrowth. As a country opensup to trade and invests inresearch and development (R&D), its comparative advantage can evolve overtime towards theproduction of products with largerprofit margins due to thehigher level ofdifferentiation generated. Using anendogenous growth model, Grossman andHelpman (1989) study the evolutionof comparative advantage through theallocation of resources toR&D and find that thehuman- capital rich country is a netexporter of differentiated productsand a net importerof labor intensive traditional productsat every moment intime. In addition, they establish thatif product development is human-capital intensive relativeto the production ofcurrent differentiated products, thevolume of trade as a fractionof world GNP orworld expenditure grows over time. Building uponthis model, Romer (1990) finds that aneconomy with a larger total stock ofhuman capital, the main resourcefor R&D, will experience fastergrowth. Thus trade liberalization can act tospeed up growth inunderdeveloped countries withlow levels of human capital throughaccess to a larger poolof global human capital. Grossmanand Helpman (1991) advance this notionby showing that the lowering oftrade barriers would generate spillovers to thelocal economy through contacts withforeign businessmen and marketswhile also raising incentives forlocal R&D. Coe and Helpman (1995) andKeller (1998) further develop the productivitygrowth effect oftrade openness through the “international R&D

spillovers” phenomenon, which states that acountry benefits from R&D doneelsewhere through the importingof intermediate and capitalgoods from other parts of theworld.

In addition toproductivity growth, other sourcesof gains from internationaltrade that have been examined includegains from an increasedvariety inconsumption (Romer (1994) and Feenstra (1994)). Merlitz (2003) posits that byopening up to trade, market shareswould be reallocated to the mostproductive firms, as lessproductive ones are forcedto exit. Similarly, Tybout (2001) looks atplant efficiencyand shows that increased competitionfrom international trade causes themarket for efficientplants to expandand intra-plant efficiency to improve. Acemoglu et al. (2002) find that opennessto trade leads to the adoptionof institutions that protectproperty rights, which is crucialto the creation of asustainable economy with fastergrowth. Krugman andVenables (1995), through economicgeography, suggest that marketaccess could raise agglomeration benefitsand thus induce higherincome levels.

Despite the extensive literature on themechanisms through which countries wouldgain from international trade, whether acountry should adopt a freetrade regime is still ahotly debated topic. The most notablecounter argument is that ofinfant industry protection. For anewly created industry tosurvive, the government needs toprotect it from foreign competitionuntil its productionprocess becomes more efficientand cost-effective. In other words, through strategicindustrial policy, one could turn alatent comparative advantageinto an effective one (Harrison andRodriguez-Claire, 2009). However, to judge the meritsof such apolicy, one has to consider both thecosts incurred andpotential benefits reaped from thatprotected industry. For example, the Mill test requires that theprotected sector needs toeventually survive

international competitionwhile the Bastable testtakes this notionfurther in demandingthat discounted future benefitsfrom the protected industry have toexceed the present costsof protection. Bardhan (1971), Redding (1999) and Merlitz (2005) outlineother conditions under whichbenefits from protection justifylosses in consumerwelfare.

The relationship betweentrade openness and economicgrowth is also a widelyinvestigated in appliedeconomics. The theoretical frameworkthat formally relates opennessto trade to economic growth is providedby Grossman and Helpman (1991). In this framework, trade openness is seen ashaving apositive effect oneconomic growth byfacilitating technology spillovers, which, in turn, would increase internationalcompetitiveness, productivity, and export revenues. Othertheoretical explanations suggest thattrade openness might have anegative effect on economic growth, especially in the caseof low income countries. Furthermore, this alternativeview is based on the ideathat the structural characteristicsof low- income developing countries tend toreverse the terms of trade attheir disadvantage. Theoretically, therefore, causality betweenopenness to trade and economicgrowth can run on bothdirections (Vlastou 2010). Empirical evidence shows that therelationship betweentrade openness economic growthremains to be inconclusiveresult; the literature is fullof mixed findings. Studies such asBahmani-Oskooee and Niroomand (1999) or Edwards (1992) found a positive impact of tradeopenness oneconomic growth, while others foundinsignificant impact of trade opennesson economic growth (Harrison & Hanson, 1999). In addition, Vlastou (2010) in a recentstudy concentrating on therelationship between tradeopenness and economic growth in 34African countries over theperiod 1960 and 2003, hefound that

openness to trade has anegative impact oneconomic growth. He also found that thecausality runs from opennessto economic growth, and not in theopposite direction.

## Foreign Remittances and Economic Growth

Foreign remittances constituteone of the largest sourcesof foreign capital inflowsto the developing economiesas they account forabout 27 percent of thegross domestic product (GDP) (Meyer & Shera, 2017; Sibindi, 2014). The dramatic increase in thevolume of remittances to thedeveloping nations can beattributed to theimproved immigration between the developed countriesand the developing countriesand the technological advancement that has enhanced theinternational transfer of payment between individuals ata low cost (Meyer & Shera, 2017). According to theWorld Bank, remittances are personal transfersor compensation ofworkers. Anton (2010) and Yang (2008) noted thatremittances constitute an important sourceof savings and capital forinvestment inhealth, education, and entrepreneurship therebyenhancing productivity andemployment, which culminate into economic growth. Remittances can also help inenhancing the growthof the financial sector on the notion thatsome of the remittances are convertedand deposited with banksthus making the funds available forlending to theprivate sector andthis, in turn, facilitate economic growth (Misati & Nyamon- go, 2011). Remittances provide support for thewelfare of the relatives left behind thuscontributing to theeradication of poverty in therecipient country (Gupta, Pattillo & Wagh, 2009).

Despite the enormous benefitsof remittances on theperformance of developingcountries, the impact of remittanceson economic growth is stillambiguous (Kumar et al., 2018). Some

literature noted thatremittances exert apositive influence oneconomic growth (Kumar et al., 2018; Meyer & Shera, 2017; Pradhan, Upadhyay and Upadhyaya, 2008), other strands of literature emphasizedon a negative or zerorelationship between remittancesand growth (Feeny, Iamsiraroj & McGillivray, 2014;Lim & Simmons, 2015). The inconclusivedebate on the relationship betweenremittances and economic growthnotwithstanding, the literature is more concernedwhether the financial developmentplays a critical role in theremittances led growthrelationship (Abida & Sghaier, 2014; Chowdhury, 2016; Raheem, 2015; Sibindi, 2014). It is argued that awell-developed andfunctioning financial sector is fundamentalfor economic growth because it helps toproduce essential informationfor investments, enhance efficient allocationand utilization ofsavings, monitor investments, improve tradingand diversification, andmanage risk (Levine, 2005). Adenutsi (2011), DurusuCiftci, Ispirand Yetkiner (2017), Valickova, Havranekand Horvath (2015), therefore, stressed thatthe financial sector provides anavenue whereby funds, such asremittances, can bemobilized into productive investmentthat will culminate into economic growth.

## Financial Deepening and Economic Growth

Finance and development theory positsthat there is a symbiotic relationshipbetween the evolution of thefinancial system and the developmentof the real economy. This theory predicts that financialdeepening depends on realincome and real interestrate. In fact the relationship between financialdeepening and economic development is basedon the complementarily betweenmoney and capital. Here, it is assumed thatinvestment cannot be realized without theaccumulation of a significantamount of savings in the formof bank

deposits. Financial intermediaries witness anexpansion in their activities andpromote investment when savingsgrow more than the levelof real economic activity. In these models, a positive real interest rateincreases financial deepeningthrough the mobilizationof an increased volumeof savings and promotes growth througha higher productivity ofcapital (Pradhan 2010).

There is reasonable evidence that anydistortion and limitation on thebanking sector, such as interest ratecontrols, reserve andliquidity requirements, and government rationingof available credit toso-called priority sectors, inhibitfinancial development mainlyby depressing the realinterest rate. That is, introductionof regulation is likely going toinhibit financial developmentin many respects. For instance, thedeficiency in the amountof savings that is occasioned byrepressive measures thwartseconomic development throughthe perverse effectson the volume and the qualityof investment. It then follows thatfinancial repression has a detrimentaleffect on financial developmentand economic growth (Pradhan 2010).

But financial deepening is influenced inmany ways by theactivities of financialinstitutions. In analyzing the effectsof financial institutionson financial deepening, oneof the basic assumptions is thatthese institutions operate underconditions of perfectcompetition allowing them toturn deposits intoloans at zerocost. If this is accepted, the bahaviourof banks is ignored and theemphasis is on the influencethat restrictions on interest ratehave onsavings and investment. Anothershade of argument is thatmodels of perfectly competitivebanking are implausible and theoretically inadequatefor assessing the effectsof financial policies inless- developed counties likeNigeria. This is due to tworeasons, firstly, the bankingindustry in many developingcountries is dominated by asmall number of banks, thereforecollusive

behavior is notuncommon; secondly, asymmetric informationin the loan market is an importantsource of imperfectly competitive behaviorin the banking system. This will certainly givelenders a degree ofmarket power over borrowerswhich make the former behave asmonopolists (Adeusi, 2013).

It is obvious that adeposit rate ceiling does not prevent thesupply of deposit. Such asituation can be achieved essentiallythrough a representative bankor a bank cartel. This may be realized whenactivities allow variations of themarketing efforts or anincrease in thenumber of bank branches. In fact, resorting tothese activities requires substantialfinancial resources, which is a seriousimpediment to small commercialbanks since they are notable to use the non-interest rate policiesas effectively as the major banks. Thus, themonopolistic structure of the banking industry inless-developed countries favoursthe big banks over thesmall ones in mobilizing funds insavings deposits in this kind ofenvironment (Adeusi,2013).

The concept of financial liberalizationstates that banks and corporations are allowedto borrow abroadfreely. They may needto inform the regulatory authoritieslike the central banks and ministryof finance but permission is grantedalmost automatically. Reserve requirements mightbe in place but are lower than10 percent. In addition, there are nospecial exchange rates foreither the current accountor the capital accounttransactions; or are there any restrictions tocapital outflows. Similarly, afully liberalized domestic financialsystem is characterized by lackof controls on lendingand borrowing interest ratesand certainly, by the lack ofcredit controls, that is nosubsidies to certain sectorsor certain creditallocations. Also, deposits inforeign currencies are permitted. In afully liberalized stockmarket, foreign investors are allowedto hold domestic equitywithout restrictions capital, dividendsand

interest canbe repatriated freelywithin two yearsof the initial investment. In thisscenario, it is expected that thereshould be various formsof financial instruments inresponse to the needof the operators in thesystem. On the otherhand, financial repression means thatgovernments hold financial marketsby interfering inthem. It achieves this bydistribution of credits, with holding interestrates at low levelssynthetically. However, financialrepression depends on the criticisms ofneoclassical and neo-keynesianviews about interest ratepolicies (Vuranok, 2009).

## Empirical Literature

The relationship between financial integration and economic growth has attracted lots of empirical investigation both within and outside Nigeria.

## Studies Outside Africa

Biplab and Inder (2021) examined the effectof financial integration on growth, total factor productivity, andcapital accumulation using adynamic panel system-GMM for adataset consisting of 43 Asian economies from 1995 to 2015. The impact of de jurefinancial openness onoutput, productivity, and capital stockgrowth is significant, while the effect of de factofinancial integration is fuzzy. The disaggregate assetclasses (namely, inflows offoreign direct investment anddebt) are found to facilitate higheroutput while derivative inflowsyield anundesirable effect. For developing countries, financial opennesssignificantly boosts productivity andcapital accumulation while for lessdeveloped countries it only enhances productivity. The negativeimpact of the currency crisison growth and capital accumulation is found to besignificant for more openeconomies. The currency crisis is moreprominent for

developed economiespartially effective for less developed countriesand partially ineffective for developing economiesin Asia.

Duc, Anh and Chi (2020) investigated therelationship between financial integrationand economic growth inChina. Two distinct aspects offinancial integration, the defacto (proxied for economicactivities) and the dejure (proxied for theGovernment policies leading tointegration) were employed as theindependent variable. Auto-RegressiveDistributed Lags (ARDL) and Granger Causalitytest was employed in analyzingthe data. The studyfound a long-term co-integration betweenfinancial integration de facto andeconomic growth in China. The bidirectionalcausality between financial integration andeconomic growth in China is alsoconfirmed using theGranger causality test.

Ehigiamusoe and Hooi (2018) carried out astudy on how economicand financial integration stimulate economicgrowth. It also investigates theliterature on the impactof financial integration oneconomic growth. Evidence from the studyshows that though other views exist, but there are overwhelmingsupports for growth-enhancing effects ofeconomic integration, albeit common currency adoption has insignificanteffect on growth. Thechannels through which economic integrationexerts its influence ongrowth include, capitalaccumulation, productivity growth, tradeand financial integration. However, the studyshows that the impact offinancial integration oneconomic growth is inconclusive. Based on the findings, thestudy draws some implicationsand policy options.

Jim (2017) carried out an empiricalanalysis on financial integrationin the European Union. Three pillars are used tomeasure capital market integrationin the EU: the integrationof equity capital markets, debtcapital markets and corporateactivities, measured ascross-border M&A,

all relying on the Lawof One Price. Ordinary Least Squares regressions was employedin analysingthe data. Although no strong evidence is found forconvergence of capital markets integration, the studydemonstrated that the economic benefitsof financial integration differ amongstdifferent capital markets integrationand that countries experiencea different level of benefits based on itsfinancial development, EMUmembership, size orgeography.

Arash and Aidin (2016) investigated financial development, financial integrationand economic growthusing panel data for the period2005 to 2013. Twenty fourcountries namely Iran, Malaysia, Turkey, BahrainKuwait, Oman, Saudi Arabia, BangladeshPakistan, Algeria, Cameroon, Egypt, MoroccoTunisia, Benin, BurkinaFaso, Chad, MaliMauritania, Mozambique, NigerSenegal, Sierra Leone andTogo were studied. GDP per capita was employedas the independent variable whilefinancial development (the shareof domestic credit allocated to theprivate sector of GDP), financial integrationindex (ratio ofnet foreign assetsto GDP), public spending foreducation of GDP and size ofgovernment (share of government spendingof GDP) were employed as theindependent variables. Regression analysis was employed inanalyzing the data. The results of the studyshow that financial development, humaneducation and governmentspending have positive effectand financial integration has negativeeffect on growth in studiedcountries.

Sami, Meriem and Makram (2016) investigated the causalnexus between financial integration and economicgrowth. The study covered theperiod between 1970 to 2011 for 19 emerging and developing countries namelyArgentina, Bolivia, Botswana, BrazilChile, Colombia, Cote d'Ivoire, CostaRica, Ecuador, EgyptMalaysia, Mexico, Morocco, Paraguay, Peru, South Korea, TunisiaUruguay, and Venezuela. Both linear andnonlinear Granger-

causality tests were employed inanalyzing. The linear causality analysis reveals only weak causal linkages betweenfinancial integration and economicgrowth. In contrast, thenonlinear causality analysis provides evidenceof significant nonlinear causalityin 18 out of 19 countries. The growthhypothesis holds true forArgentina, Bolivia, ColombiaMorocco, Tunisia, and Venezuela whereas areverse relation was found inBrazil, Chile, Cote d’Ivoire, Costa Rica, Ecuador, EgyptSouth Korea, Malaysia, Mexicoand Paraguay. The feedback hypothesis also existsin Bolivia and Uruguay. Overall, thedivergent results in the 19 countries imply thatpolicies cannot be uniformlyimplemented as there wouldhave been different effects ineach country.

Mahajan and Verma (2015) carried out anempirical investigation oninternational financial integrationand economic growth in Indiausing time series data from1981 to 2011. Models of co-integration andVector Error Correction Model (VECM) was applied toexamine the relationship between thevariables. The study found that thatinternational financial integration affects thegrowth of theeconomy positively; and change ineconomic growth due to it through financial development is approximately8.63 percent. The study also suggeststhat the structural reforms thattook place in India inearly nineties did notaffect the existing relationship ofglobal financial integrationand economic growth significantly.

Wafa and Saoussen (2015) investigated thedeterminants of international financial integration in theMiddle East and NorthAfrican countries (MENA). The study aimed tooffer some insight intounderstanding this phenomenonin the MENA area. Trade openness, thelevel of development, thefinancial market development, theinflation rate, fluctuations in theexchange rate, the financialcrisis of 2008 and the taxpolicy were employed as theexplanatory variables

while international financialintegration was employed as thedependent variable. Regression analysis was employed inanalysing thedata. The study found thattrade openness, the exchange rate, the logGDP could explain the degree offinancial integration while the restof the variablesnamely financial instability (crisis), taxes,inflation and level ofuniversity education don’t affectinternational financial integrationin the MENA region.

Osada and Saito (2007) studies the effectsof financial integrationon economic growth using an internationalpanel data of 83 countriesfrom 1974-2007. They show that theeffects of financial integration oneconomic growth differconsiderably, depending on thetype of external assets andliabilities as well as on thecharacteristics of countries. They breakdown external liabilities into FDIand equity liabilities and debtliabilities, the former has apositive impact on economicgrowth, while the latter, especiallypublic debt, has a negativeimpact. They also find ingeneral that countries withgood institutions and developed financialmarkets benefit more fromfinancial integration, and countries inWestern Europe and NorthAmerica as well as those inEast Asia are more likelyto meet theseconditions. Moreso, they provide some evidence thatfinancial integration has anadditional, indirect effect oneconomic growth through its impact onother determinants of growthsuch as the volume of internationaltrade and the developmentof domestic financial markets.

Schularick and Steger (2006), using ageneralized methods of moment (GMM) dynamicpanel estimation, investigated empirically thenexus between international financial integrationand economic growth bylooking at the evidencefrom the first era of financialglobalization from 1880-1913. Their resultssuggest that international capitalmarket integration fostered economic growthsignificantly in thehistorical period, but nolonger does sotoday. Their

explanation of thesediverse experiences is verysimple. They think that theneoclassical model provides a valid descriptionof the historical period, but appears unsuitableto explain the contemporaryworld economy. Their results reinforcethe conclusion that thoseeconomies which open themselves to theworld economy needat first abolish domestic distortionsto reap the benefitsof globalization. More specifically, it seemsespecially important toestablish good property rights in alleconomies participating in theworld economy.

The study of Banam (2010) analyzed the impactof financial liberalization oneconomic growth in Iran throughJohansen Co-integration test usingtime series data from1965 to 2005 while also investigatingthe determinants ofeconomic growth. The financial liberalization index was representedby the financial restraintsindex which includes interestrate controls, reserve requirementsand directed credit multipliedby -1. The results suggest thatfinancial liberalization has positiveand statistically significant impacton economic growth measured by the grossdomestic product in Iran. The findings providesupport to Mckinnon (1973) and Shaw (1973), who argued thatfinancial liberalization can promote economicgrowth by increasing investmentand productivity.

Ozdemir and Erbril (2008) empirically investigated the impactof financial liberalization on economicgrowth in 10 new EuropeanUnion countries and Turkeybetween 1995 and 2007. They constructed differentfinancial openness indicatorsusing panel data for differenttypes of financial flows such asforeign direct investment, otherinvestments, portfolio investments, trade opennessindex as well as othercontrol variables. Employing theOrdinary Least Square (OLS) method, their staticrobust and dynamic panel dataestimates indicates clearevidence between the long-rungrowth and a numberof financial liberalization indicatorswhich

confirms the anticipations ofthe ‘new growth theory’. Their findingstake cognizanceof financial liberalizationas a policy tool becauseof its possibility to promoteeconomic growth.

Mitsuhiro and Masashi (2010) carried out anempirical analysis on therelationship between financial integrationand economic growth usingpanel data from 83 countriesfrom 1974 to 2007. Regression analysis was employedin analyzing thedata. The study found thatforeign direct investmentequity liabilities and debtliabilities have significantpositive impact on economic growthwhile public debt has anegative impact oneconomic growth. The study also found thatcountries with good institutionsand developed financial marketsbenefit more from financial integrationand countries in Western Europeand North America aswell as those in East Asia are morelikely to meet theseconditions. The study also foundthat indirect effect on economic growththrough its impact onother determinants of growthsuch as the volumeof international tradeand the development ofdomestic financial markets.

Epaulard and Pommeret (2005) investigatedthe relationship betweenfinancial integration and growth from 32emerging market anddeveloping countries usingGMM method of estimation. They considered the period1990 to 1998, whereFDI was used asproxy for financial openness. A stochastic endogenousgrowth model was used forsmall economies where capitalwould flow from capital-richeconomies for investmentto the small economies. The modelassumes that financially integratedeconomies receives FDI which is converted intoproductive capital and used for investment. Under autarky capital move from capital-rich economies to capital- scarce economies. They grouped thecountries into two subsets: Less Integrated Economies (LIEs) and MoreIntegrated Economies (MIEs).The empirical evidence revealed thatfinancial integration resulted to apositive growth. However thegains were not hugebut they were

significant in termsof growth under autarkywhich raised thewelfare gain of acountry. They concluded that more financialintegrated economiesexperienced higher growthrates compared to less integratedeconomies. The study used FDI as ameasure of financial integrationsimilar to this study.

Evans and Hnatkovska (2007) studied the effectof financial integration onmacroeconomic volatility and welfare usingtwo-country general equilibrium model. They examineda two- sector (tradable and non-tradable), twoeconomies whereby there is internationaltrade in bonds, stockand markets are incomplete. They consideredequilibrium under financial autarky (FA), lowfinancial integration (LI) andhigh financial integration (HI). They foundthat financial integration increases thecorrelation pattern betweeninter- temporal marginal rates of substitution for thehome country andforeign country indicating increasedrisk sharing. However, high financialintegration reduces consumptionand output volatility andimproves welfare while lowfinancial integration increases consumptionand output volatility andlead to the welfareloss. The welfare loss affectspublic spending which influencesgrowth if it affects capitalformation.

Osada and Saito (2010), used apanel data set of 83countries to investigate theeffects of financial integrationon economic growthfrom 1974-2007. The studyproxied the external liabilities and assetsstock as a measureof openness using *de facto*based measure. Osada and Saito (2010), separatedliability and assetstocks to four differentgroups that are equityand debt assets, debtliability; equity and FDI liabilitiesand debt assets toobjectively identify the typesof either the liabilitiesor assets that had acomparatively greater effect oneconomic growth. The study employed the systemGMM methodology to examine theimpacts basedon

different measuresof the financial opennesson growth. Control variables suchas the growth of population, inflationrate, and the numberof years of schooling, institutionalquality and trade openness thatinfluence growth were includedin the model. The study concluded thatthe effects of integration oneconomic growth differsubstantially dependingon the type of the assetsand liabilities. Equity and FDI liabilities had apositive influence whiledebt liabilities had a negative impacton recipient countries ongrowth. The results confirmed theprior empiricalwork. However, assets associatedwith FDI, debt, and equity, would berealized to haveenhanced less meaningfully togrowth.

Sedik and Sun (2012) analyzed the short-to-medium termeffects of liberalizing capitalflows on macroeconomicperformance and risks tofinancial stability for asample of 37 emerging market economies (EMEs)over the period1995-2010. They go further toanalyze the position of China in thesame context as theother 37 EMEs. They proxyfinancial openness withtwo new dejure measuresalthough therestrictiveness indices are basedon the IMF’s AREAER. The first restrictivenessindex is similar to theSchindler index (Schindler, 2009) and comprises 21categories of restrictions, includingrestrictions on equitybond, money market and collective investmentscheme instruments, financial creditand direct investment by direction. They use thesecond dejure index as arobustness check andthis is an average of binary indicatorsof 62 categories of capitaltransactions. It includes itemssuch as all capital transactions, foreignexchange and domestic currency accountsof residents and non-residents, regulatory measuresrelated to the financialsector and repatriation andsurrender requirements. The study employed thesystem GMM methodology inanalyzing the data. The study found that financialopenness can explain macroeconomic performanceand financial stability risks,

at leastpartially. Specifically, the study found thatcapital account liberalization is associated withhigher GDP per capitagrowth and lowerinflation. Also, financial integration is foundto be associated with higherreturns on equityand lower bank capitaladequacy ratios thereby suggesting potentialrisks to financial stabilityin events of spontaneousreversals in capital flows. The outcomeof the analysis onChina is not very differentfrom that of the otherEMEs on qualitativeterms. However, they argue thatquantitatively, the effectsdepend on thepace and sequencingof financial openness. Furthermore, they suggest thatfuture research should be directed at employing adifferent econometricapproach to the Chinese situationdue to its size and ongoingstructural changes which is quiteunique from the otherEMEs.

Sethi (2013) study examined thecasual relationship betweenforeign capital inflowsand economicgrowth in India. The monthly data wasused taken for theperiod from 1995:04 to 20117. The methodology used was thepair-wise Granger causalitytest (1969). The findings from the study showsthere is the long-runequilibrium relationship was restoredbetween the following pairs ofvariables viz., economicgrowth and Foreign DirectInvestment (FDI), economic growthand Foreign Portfolio Investment (FPI). The study also revealed thatprivate foreign capitalinflows have a positiveand direct impact on economicgrowth. In other words, for the sound economicprocess of a rustic attractsadditional private foreigncapital inflows.

Derrick, Caroline, Rosleand Vivin (2011) examined the relationshipbetween economic growth and foreigndirect investment in Malaysiabasing his analysis onLocation Advantage Theory. This study aims toidentify which location advantage channelsand its threshold value that can influence theinflow of foreign directinvestment into Malaysia. Locationadvantage channels were formedusing human capitaldevelopment, financial developmentand

environmental conditionwhilst foreign directinvestment was used as an interactiveterm as well as an independentvariable. The results revealed that, without incorporatinginteractive terms, all the locationadvantage channels wereable to stimulated economicgrowth. However, when location advantagechannels were used as aninteractive term withforeign direct investment, the resultrevealed that all the interactiveterm variables becomeinsignificant towards economicgrowth. Thus, the study supportthat a certain valueof location advantage channels are importantas a precondition forforeign direct investment to have apositive effect on economicgrowth in Malaysia.

Najia, Maryam and Nabeel (2013) examined theimpact of foreign direct investmenton economic growthof Pakistan. The data usedfor this study has spannedover the period of1981 till 2010. Besides FDI, fourother variables includingDebt, Trade, Inflation andDomestic Investment have beenincluded in the study, toregress upon GDP of thiscountry. The methodologyto test the impactof these variables onPakistan’s economy has beenlimited to the least squaresmethod. The co-integrationof the variables has beenascertained through application ofAugmented Dickey Fuller Testand is found tohold in the longrun. The findings indicate thatPakistan’s economic performance is negativelyaffected by foreigninvestment while its domesticinvestment has benefitted itseconomy. Moreover, thenation’s debt, trade and inflationhave found to have negativeimpact on itsGDP. This study ignored theimportant aspect of FDI which is humancapital development and itscontribution tofinancial development.

Pourshahabi *et al.* (2011) alsoinvestigated the relationshipbetween Foreign Direct Investment (FDI), economic freedomand growth in OECDcountries during1997-2007. Panel data

Method is used toestimate two models. The firstmodel was applied to investigate thefactors that stimulateFDI and the secondone was applied tofind the growth factors inOECD members. The resultsof first model indicatedthat Human CapitalMarket Size,Political Stability and Inflation have positiveand significant impact onFDI in these setof countries. However, the effectof Economic Freedom onFDI in OECD countries is positive, butit is not significant. As to thesecond model they foundthat Foreign Direct Investmenteconomic freedom, GovernmentConsumption Expenditure, publicinvestment and HumanCapital lead to growth in thesecountries. However, inflationand external debt havenegative effect on growth but this negativeeffect is not significantfor inflation.

## Studies Within Africa

Abdulaziz (2020) investigated the impactof financial integration oneconomic growth in Ethiopia. This is atime series study from1980 to 2017. The GDP percapita is used as a dependent variablewhereas domestic credit toprivate sector as apercentage of GDPnet financial flow, secondaryschool enrolment ratepopulation growth ratetrade openness, inflation rate andterm of trade areused as an independentvariable. The model used is atime series multilinear regressionmodel. The Ordinary Leastsquare (OLS) regressiontechnique is applied formodelling and analyzingvariables using statisticaland econometric package (EViews). The result indicates thatpopulation growth rateinflation rate, and termsof trade have no significant impacton economic growthwhile domestic credit toprivate sector as a share of GDP, netfinancial flow, secondaryschool enrolment rate, andtrade openness are

statistically significant inexplaining economicgrowth in Ethiopia. The studyconcludes that financial integrationhas a positive impact oneconomic growth andstatistically significant.

Wambugu (2018) investigatedthe effects of financial integrationon economic growth in Kenya. The studycovered the period 1970 to2015. Regression analysis was employedas the estimationtechnique. The study found thatforeign direct investment influencesgrowth. Results fromthe regression showed thatforeign direct investmentcoefficient as the ratio of gross domesticproduct per capita was positiveand statistically significantwhile portfolio investment coefficientas the ratio ofgross domestic product percapita was positiveand statistically insignificant. However, portfolio inflowscontribute positively and significantly to economic growthvolatility. The study recommends that thegovernment should provide an environmentthat can attract long termforeign direct investmentsand maintain stable macroeconomics policies inenhancing growth.

Kouki and Rezgui (2017) investigated the impact offinancial integration oneconomic growth with particular referenceto three Maghreb countries (Algeria, Moroccoand Tunisia) using time series datafrom 1981 t0 2014. Financial integration proxiedby the stock ofaccumulated capital flows (the sumof assets and liabilities offoreign direct investment andportfolio flows) with regardto GDP, trade openness andinterest rate were employedas the independent variables whileGDP per capita was employedas the dependent variable. OrdinaryLeast Squares Method (OLSM) andARDL method was employed inanalyzing the data. The result indicates theexistence of a positiveand significant relationship betweenmacroeconomic policy (interest rateon deposits) and economicgrowth (GDP) for the threecountries, however, the relationship between thesecond variable ofmacroeconomic policy (tradeopenness) and

economic growth is positivebut not significant. Also, thestudy found that thelong-term relationship betweeneconomic growth andfinancial integration variable is positiveand significant.

DramaBédi (2016) investigated financial integration, foreigndirect investment and growth using paneldata analysis for WestAfrican economic monetaryunion countries using time series datafrom 1980 to 2014. The countriescovered include Cote d’Ivoire, BeninSenegal and Togo. Ordinary Least Squaresmethod and Two StagesLeast Squares method wereemployed in analyzing the data. The studyfound that foreign directinvestment (FDI) is not animportant determinant of economicgrowth West Africa. However, its effect is relativelylow and statistically insignificantat the conventionallevel. In addition, it was found thatfinancial integration variable impactsnegatively growth in thefour countries above, whichsignifies that financial integrationpolicy doesn’t allows financialsystem to be moreefficient. Furthermore, the empirical results showthat the effect of domesticown investment is globallypositive and statistically significantfor all countries whenusing panel least squareframework.

Egbetunde and Akinlo (2014) investigated financial integrationand economic growth in Sub- SaharanAfrica from 1980 to2010 for twenty-onecountries in SSA, namely: Botswana, Burundi, CameroonCentral African Republic, ChaCongo, Gabon, Gambia, Kenya, Lesotho, MadagascarMalawi, Mauritius, NigeriaSeychelles, Sierra Leone, SouthAfrica, Sudan, Swaziland, Togo andZambia. Using a dynamic panel Generalised Methodof Moment (GMM), the study finds thatfinancial integration had a negative andsignificant impact on economic growth inSSA. The results also reveal that institutional quality had anegative and significant impact oneconomic growth in SSA. Also, financial developmenthad negative

impact on economicgrowth in the region. The study concludes that theeconomies did not reap the benefits offinancial integration. The study contends that thegovernment in the region needs to put in placeappropriate macroeconomic policies and institutionsthat will drive the benefits offinancial integration in order tosustain economic development.

Zenasni and Benhabib (2013) examines empirically the links betweeninternational financial integration and economicgrowth for the case of threeNorth African countries usingthe dynamic panel system GMMestimator proposed byBlundell and Bond (1998) over theperiod 1980-2010. The estimationshows that the effectsof financial integration oneconomic growth is positive in the threestudied countries, which means thatfinancial integration can stimulate the evolution offinancial systems and improve theeconomic situation in NorthAfrica.

Chipote, Mgxekwa and Godza (2014) examined theimpact of financial liberalizationon macroeconomic performance inSouth Africa by usingtime series econometric analysisover the timeperiod 1990-2011. The study usesGDP, the dependent variable as ameasure of economic growth and thefollowing macroeconomic variables: inflationlending rate, exchange rate and financialdeepening (M2/GDP) as financialliberalization indices. To confirm the order ofintegration, the Augmented Dickey-Fullerand Phillips Perron unit root tests are employed. The studyuses the Johansen co-integrationand the Error Correction Mechanism to obtainlong run and short runcoefficients. Findings of thestudy are that inflation, lending rateand financial deepening have positiveinfluence on economicgrowth whilst exchange rate has anegative impact oneconomic growth. This study recommendsthat the government should put inplace measures that stimulate investmentswith fair lending rates so as to deepen thefinancial system which in turnpromotes economic growth.

Kanu (2015) investigated the impact offoreign capital inflows on theeconomic growth of Sub Saharan Africa (SSA), withemphasis on Nigeria, Ghana andSouth Africa using multiple regression technique. Outcomeof the study revealed that there is nosignificant long run relationship betweenforeign capital inflows and the level ofeconomic growth in Nigeriaand South Africa. It was only the lagged valueof GDP (In the immediatepast year), taken as an independent variablethat was found to bepositively significant. Other Inflow indicatorsthat were hitherto significant in theshort run, turned out to beinsignificant in thelong. The scenario was almost thesame for Ghana exceptfor FDI and the lagged valueof GDP (in the immediatepast year), taken as independentvariable that were positively significantin the long run. It was alsorevealed that, there existcausality relationships betweencapital inflow indicators and economicgrowth in theaforementioned countries. Conclusively, it was ascertained thatmost of the investment inflowsinto SSA were based onspeculations, targeted at the non prioritysectors of the economies andchanneled into businesses with shortgestation periods. Their impacts are only felt in theimmediate periods and given that thefunds are quickly repatriatedafter profits are made, theydo not make the desired impact inthe long run.

Adu (2013) carried out a study onfinancial integration and economic growthin sub-Saharan Africa using time series datafrom 1996 to 2010. Generalized Methodsof Moment (GMM) dynamic panelestimation was employed in analyzing thedata. The study finds asignificant positive relationship betweenfinancial development and portfolioequity flows. The results also suggests that tradeopenness and political stabilityhave a significant negative relationship with portfolio equityflows in SSA. As a robustcheck, the EGLS estimator confirmsthat there is a robust positive relationshipbetween financial developmentand portfolio equityflows to

SSA. However, neither tradeopenness nor political stability is arobust determinant of portfolio equityflows to thesub-region.

Ahmed (2011) took a cursory look at the empirical relationshipbetween growth andfinancial openness proxied by portfolioequity flows across the 25 countriesin the Sub-Saharan region from 1976 to2008. The study employed GMM methodology using bothreports of IMF’s AREAER *de jure* measureand the stock of external liabilityand asset aggregationto GDP de facto measure as a proxyfor financial integrationfor panel dataanalysis. The financial openness’s coefficient indicatorwould turn to be positive inmany of the incidencesmaking the study to find itdifficult in establishing arobust link in relation to thefinancial openness and growth. The study providedviews that did not support thatfinancial integration promoted economic growthin Sub-Saharan Africa. However, the study observed thatfinancial openness had enhanced economicgrowth through indirectchannels such aspromoting domestic financial market developmentand products.

Muthoga (2012) investigated the impact thatwould result from regionalfinancial integration on growthamong East Africacountries (EAC) for the period 2000 to2009. System GMM dynamic panelmethodology was applied to assess thecross-country growthand intra-regional trade effects ofregional financial integration. Bank interestrate spread, real exchangerates, and governmentsecurity rates were used as aproxy measure of regional financialintegration. The study includedcontrol variables such asgovernmental balance toact as a GDP percentage, the lagged economicrate of growth, the inflation rateand corruption perceptionindex, Rwandan dummy variableand FDI to act as apercentage of GDP. The study established that the region’s (EAC)financial integration significantly accelerated thegeneral EAC’s economic

growth thus complementedintra-regional trade amongthe EAC member countries. However, the study establishedthat the effect ofregional financial integration oneconomic growth differed among membercountry since they havedifferent characteristics betweenthe countries. In addition, the effectof regional financial integrationon intra-regional tradedid not differ among membercountries.

Antwi, Atta Mills, Atta Millsand Xicang (2013) studied the impactof foreign direct investment oneconomic growth: empiricalevidence from Ghana. The study aims tostudy the relationship betweenFDI and economic growthin Ghana for the period1980-2010 using time series data. The variables used in thestudy include The GDPGDP growth rate, GNI, Manufacturing ValueAdded, External DebtStock, Inflation, TradeIndustry Value added and Foreign DirectInvestment net inflows as percentof GDP (FDI ratio). The study used the simple ordinary leastsquare (OLS) regressions and theempirical analysis is conducted by using annualdata on FDI andother variables over the periods1980 to 2010. The study reveals that independentvariables GDP, GDPg, GNI, MVAGDPc and TRA are allsignificant to explain FDI sincetheir corresponding p-valuesof the t-statistic are less than 5 percentand thus have an influenceof FDI in Ghana. This study ignored theimportant aspect of FDIwhich is human capital development.

Moyo (2013) carried out astudy on the impactof FDI on economic growth inZimbabwe. In that study, Moyo (2013) used amultiple regression model thatlinked FDI as well asother macroeconomic variablessuch as government expenditureand private saving togross domestic product, it was found thatforeign direct investmenthad a very significantpositive impact on economicgrowth in thecountry. A study was carriedout by Barua (2013) on the

dynamics ofco-integration between FDI, Growthand exports in the Indianeconomy for the period 2000 to2012. By framing simple and multipleregression models, the resultsof the study found thatFDI, GDP andexports were positively correlated.

Maliwa and Nyambe (2015) investigated theImpact of FDI on economicgrowth in Zambia. Data used wasobtained from the World Bank’sworld development indicators for theperiod 1980 to 2012. A unit roottest was used to determinewhether or not the data wasstationary. The Johansen cointegrationtest was thenused to test forcointegration. Additionally the Granger causalityprocedure was used to test thedirection of causalitybetween foreign direct investmentand economic growth. It was revealed that all theindependent variableswere non- stationary in levelform but were all foundto be stationary after firstdifferencing them. Further, thevariables were integrated of orderone, I (1) and also that there existeda long run relationship among thevariables for the period1980 to 2012. In the samemanner, the results showed that FDIdoes not granger causeeconomic growth in Zambia.

Keho and Grace Wang (2017) assessed the interaction thatexists between trade opennessand economic growthin Cote d’Ivoire overthe period 1965 to 2014 using amultivariate framework thatincorporated the role ofcapital stock and labor. The results shows thattrade openness promoteseconomic growth in theeconomy. From the empiricalestimates, the positive growth effectsof openness of the economyto trade remains significanteven in the long-run. The study also documented apositive and strongcomplementary interaction between trade opennessand capital formation in thepromotion of economicgrowth in Cote d’Ivoire.

Malefane and Odhiambo (2019) explored thedynamic impact of tradeopenness on economic growth in Lesothocovering the period from1979 to 2013. Using ARDLapproach tolong-run analysis and four measuresof trade openness, capturingthe role of total tradeexports, imports, and country size andgeography in trade, the study shows thatopenness of the economy to trade has nosignificant impact oneconomic growth in Lesotho. This economiccondition exists for bothshort-run and long-runanalyses and remains theconclusion of the study irrespectiveof the measure of tradeopenness considered. Tang et al. (2019) investigated the relationship between tradeopenness and economic growthin Mauritius over theperiod 1963 to 2013. The results show thattrade openness contributes toeconomic growth in thesmall island economy. However, thecoefficient of trade opennessin the empirical analysis shows thatthe positive economic growtheffect of trade openness is weakand import-led.

## Studies Within Nigeria

Ezeaku, Anyalechi, Onwumere and Okereke (2018) examined the driversof international financial integrationand their implications on theNigerian economy using errorcorrection model approachfrom 1986 to 2015. The errorcorrection model was employed toregress the key determinantsof IFI against GDPgrowth, and to ascertain the speedof adjustment. The results showedthat financial marketcapitalisation and trade opennessboth have negative and insignificantinfluence on economicgrowth. The real effectiveexchange rate has positivebut insignificant effecton economic growth while inflationexerted positive and significantimpact on theeconomy. The Engel and Grangercointegration test result shows evidenceof long-run association betweeneconomic growthand the independent variables. Thedynamic estimate

provided evidenceof long-run causalityrunning from IFI determinants toeconomic growth. The coefficient of theerror correction termindicates that the system corrects disequilibriumin the previousperiod at thespeed of 81.43% annuallyto get at thesteady state.

Ezeaku, Anyalechi, Onwumere and Okereke (2018) carriedout a study on thedrivers of international financial integrationand their implications on theNigerian economy usingtime series datafrom 1986 to 2015. The errorcorrection model was employed toregress the key determinantsof IFI against GDPgrowth, and to ascertain thespeed of adjustment. The results showed thatfinancial market capitalisationand trade openness both have negativeand insignificant influence oneconomic growth. The real effectiveexchange rate has positive but insignificant effect oneconomic growth whileinflation exerted positive andsignificant impact on theeconomy. The Engel and Grangercointegration test result shows evidenceof long-run association betweeneconomic growth and theindependent variables. The dynamicestimate provided evidenceof long-run causalityrunning from IFI determinantsto economic growth. The coefficientof the error correctionterm indicates that thesystem corrects disequilibriumin the previousperiod at thespeed of 81.43%annually to get at thesteady state.

Olaniyi (2013) investigated internationalfinancial integration and theNigerian economic performancefrom 1970 to 2012. KPSS unitroot test, Johansen cointegrationtest, VAR modeling, impulseresponse function, variancedecomposition and grangercausality were employed inanalyzing the data. The study found that all thevariables including, the ratioof net capitalinflows to GDP and theratio of FDI toGDP appear with the expectedpositive signs (except trade openness) and are statisticallysignificant in the Nigerianeconomy.

Ezeanyeji and Ifeako (2019) explored theimpact of foreign portfolio investmenton economic growth in Nigeriafrom 1986 to 2017. The study employed Error Correction Mechanism (ECM) techniqueto analysis data. The variablesemployed are real GrossDomestic Product (GDP), net foreignportfolio investment, inflationrate, market capitalization andtrade openness. The result revealed thatforeign portfolio investments havepositive significant impact on economic processin Nigeria. It is therefore, recommended thatgovernment should initiate policieswhich will promote the long-rum growthof the capital market andtherefore the economy at large.

Iriobe, Obamuyi and Abayomi (2018) examined theeffect of foreign portfolioequity investment on stockmarket performance inNigeria from 2007 to 2017. The studyemployed the Autoregressive DistributedLag (ARDL) model in analysis thedata. The results reveal that there exists a significant differencein the sectoral distributionof FPI inflows to theNigerian economy. It also finds that foreign portfolioequity investment features asignificant positive influence on the Nigerianstock exchange performance. They recommendedthat the regulatory authorities should deepenthe equity stocks of themarket and encourage more firmsto get listed on the NigerianStock Exchange with a view tochannelling more investmentsinto the economy therebyfast-tracking industrialisation andeconomic development.

Akinmulegun (2018) examined theeffect of capital market developmenton foreign portfolio investment in Nigeriaover the period1985 to 2016. Vector ErrorCorrection Mechanism (VECM) was used to analyse theshort run and long run dynamismof the variables while also focusing on the directionof causality between capitalmarket development andforeign portfolio investment inNigeria, using grangercausality test. Result from thevector error

correction model indicated tha Market Capitalization (MCAP) hasnegative significant effect on foreign portfolioinvestment in Nigeria whileAll Share Index (ASI) has positive relationship withforeign portfolio investment. The study recommended thatgovernment should developand enforce policiesthat will further propelcapital market developmentin such a way that it willsustain its positive effect inattracting foreign portfoliointo the Nigerian economy as well asstimulate improved interestof foreign investors in subscribingto portfolio investment inNigerian enterprises.

Onyeisi, Odo and Anoke (2016) empirically examined theimpact of foreign portfolio investment inflowson stock exchange growth inNigeria from 1986 to 2014. The study employed co-integrationvector error correction mechanismand Granger causality econometric analyticalmethods. They found that there's co-integrationbetween foreign portfolio investmentand stock exchange growth whichforeign portfolio investment has significant long-runimpact on stock exchangegrowth in Nigeria within theperiod of the study. However, the resultof the study showed thatthere is no causality betweenforeign portfolio investment and stockmarket in Nigeria. They thusrecommended that federalgovernment should strengthen theSecurity and Exchange Commission (SEC) so as tostimulate constant inflow of foreignportfolio investment toNigeria economy.

Similarly, Baghebo and Apere (2014) attemptedto assess the impact offoreign portfolio investment (FPI) oneconomic growth inNigeria between 1986 and 2011. The study adopted three stagemethodological processes toensure proper estimation of theincluded variables. Form the findingsof the study, it had beendiscovered that foreign portfolioinvestment, market

capitalization and tradeopenness have positive long-run relationshipwith real gross domestic product inNigeria within the periodof study.

Eniekezimene (2013) empirically examined theimpact of foreign portfolio investmenton capital market growthin Nigeria. In anattempt to achieve itsobjective, the study x-rays the growth of FPI in the marketas well as thetransmission channels throughwhich the changes in foreign portfolio investmentaffect growth of thecapital market. Adopting ordinaryleast square (OLS) methodand parsimonious errorcorrection model, the study reported thatforeign portfolioinvestment has a positive impact oncapital market growth inNigeria.

Oyeniran and Temitope (2015) investigated therelationship between financial market integration andeconomic growth in Nigeriafrom 1981 to 2015. In this study, ratioof broad money supply to GDP, ratioof capital account to GDP, Interestrate, exchange rate, gross fixed capital formationand total labour force were employed as theindependent variables while industrial value added were employedas the dependentvariable. Autoregressive distributed lag (ARDL) boundstesting approach was employed inanalyzing the data. The result from cointegrationtest showed presence of long runrelationship between dependent and all explanatoryvariables. The regression results showthat, while financial integration has no short runeffect on economicgrowth, its long run effect ongrowth is negative and significant. Financial development was found to haveboth short run and longrun positive effect oneconomic growth in Nigeria.

Ajudua and Okonkwo (2014) examined theempirical association between globalizationas proxied by the degreeof openness and growth inNigeria for the period1986-2012 using OLS. The causal nexus betweenglobalization and growth was investigatedwithin the background of

five -variables. The JohansenCo-integration test was conductedin testing thelong-term equilibrium associations asGranger causality test focused inascertaining thecasual association’s betweenvariables. The empirical evidence showed that there existed acausal relationship between growthand globalization, and economicgrowth and FDI. Nevertheless, Nigeria’s benefit from tradeopenness centers on crude oilexportation. This implied that variation in real economicgrowth in Nigeria should be seen fromfluctuations in theoil markets (beyond theexternal shock from thetrade and capital flows). However, Nigeria has less advantages inregard to the globalizationwhich is owed to her overindependence based on its primaryoil mining export as theprimary source ofearnings, thus neglecting otheremerging and possible promising sectors within the economy. The study concluded that integration can stimulate the rise of economic growth in aneconomy. However, Nigeria has not benefiteda lot from integrationdue to overreliance ofoil export as a major source ofexport. The study proffered that an enablingenvironment and prudentialgovernment policies are key ingiving a county competitiveedge in the global financialmarket in attracting FDI.

Okpara (2010) also investigated theeffect of financial liberalization onsome macroeconomic variables in Nigeria. RealGDP, financial deepening, grossnational savings, foreign direct investment and inflationrate were selected and givenpre/post liberalization comparative analysis using the discriminantanalysis technique. The pre-liberalization periodcovers 1965 – 1986 while the post-liberalizationperiod continued from 1987 to 2008. The findings show that the variable thatimpacts most on the economyowing to financial liberalization is thereal GDP which recordedpositively the highest contribution. This implies thatfinancial liberalization positively increasesthe growth of the economy.

Nwosa and Amassoma (2014) examined the causal nexusbetween capital inflows (foreign direct investmentand foreign portfolio investment) and exchangerate inNigeria. The study employed both granger causalityand error correction modelingtechniques. The causality estimates showed nocausal link betweencapital inflows (foreign direct investmentand foreign portfolio investment) andexchange rate within thisperiod. The long run regression estimate revealed that foreigndirect investment had negative effecton exchange rate while portfolio investment had positive impacton exchange rate. However, the magnitudeof the impact was very minute unlikethe international oil pricewhich had a strong negative effecton the exchange rate. The short run result was similarto the causality result, indicating thatneither foreign direct investmentnor foreign portfolio investment had significant impacton exchange rate.

Chigbu, Ubah and Chigbu (2015) examined the impactof capital inflows oneconomic growth of developing economiesof Nigeria, Ghana andIndia from 1986-2012. With the helpof Johansen Co-integration, grangercausality and OLS regressiontechniques, the relationship between capital inflowsand economic growth in theselected economies were investigated. The findings revealedthat capital inflows havesignificant impact on theeconomic growth of the three countries. InNigeria and Ghanaforeign direct and portfolioinvestment as well as foreign borrowings, havesignificant and positiveimpact on economicgrowth. Workers’ remittances significantlyand positively relate to theeconomic growth of the threecountries. The study showed thatcapital inflow is indispensablein closing the savings-investmentgap required foreconomic growth of developingcountries.

Akanyo and Ajie (2015) evaluated the impactof capital flows on the levelof economic growth in Nigeria within thetime period of 1981and 2012. The study employed thegrowth rate of real GrossDomestic Product as the dependentvariable while the independentvariables included aggregate stockof external assets andliabilities to GDP (SAL), thestock of liabilities as a share ofGDP (SLD), the ratioof inflows and outflowsof (FDI and portfolio flows) to GDP (DPF) and theratio of inflows ofcapital (FDI and portfolioinflows) to GDP (DPI). The study employedJohansenco-integration test, ECM andvariancedecomposition tests. The study found that net capitalflow significantly and positivelyinfluenced the levelof economic growth in Nigeria.

Ekwe and Inyiama (2014) carried out astudy to empirically determine theextent to which foreign capital flowshave impacted on the growthperformance of the Nigeria economyfrom 1982–2012. The studyemployed multiple regression analysismethod for the test of the hypotheses. From the resultsof the analysis, it was discovered thatForeign Capital Inflows had a positive andsignificant effect oneconomic growth with GDP as itsproxy. It indicated that foreign capitalinflows exerted considerable influenceas a key fiscal policy instrumentof economic growth over thestated period. Also the ForeignCapital Outflow in the samevein had a positiveand significant effect on theGDP, which is another indicationthat it exerted considerable influenceas a key fiscal policy instrumentof economic growth over thestated period. Furthermore, theOpenness of the economy, which was anotherexplanatory variables used to ascertain thegrowth performance of theeconomy, had a positive and significanteffect on the GDP. On theother hand, the HumanCapital Development had a negativeand insignificant effect on theGDP. The implication is that it did notexert much influenceon

economic growthover the stated period. Finally, the inflation rate had a positive signwith GDP. It washowever, statistically insignificant whichpoints to the severityof the inflationary pressure brought to bearon the economy over thestated period. The study thus concludedthat government policy onforeign capital flows should bevigorously pursued andenhanced to provide a bufferto the nations dwindlinginternally generated revenue (IGR) amidst astronomicallygrowing population.

Nkoro and Uko (2013) examined thenature of causality between as well as theimpact of foreign capital inflowscomponents and/on economicgrowth in Nigeria. The dynamic interaction among aidremittance, FDI and external debt and growthof the Nigerian economy was examined using theconcept of co-integration, variancedecomposition and impulse response analysisand block exogeneity tests. The resultsof the co-integration test revealed that a causal relationshipexists between foreign capitalinflows and economicgrowth in Nigeria. The variancedecomposition result supported thatof co-integration analysisof causality which revealed thatcausality runs from foreignaid, remittance (RMC), externaldebt (TED) and foreign directinvestment (FDI) to realGDP (growth). Responses of thereal GDP to one standard deviation innovationsof the componentsof foreign capital inflowsappeared to be verysensitive. The shocks appearedto be very pronouncedwithin the forecast period. However, the blockof exogeneity tests showed thatthe granger causality runs fromremittance (RMC) and externaldebt (TED) to realGDP (growth) only. Onlyremittance (RMC) and external debt(TED) are significant. But jointly they all enter themodel. However, the resultof the error correctionmodel showed that there is asignificant positive, negativepositive and

negative effectof foreign aid, remittanceFDI and external debton real GDP respectively. It takes sometime before their impacts are manifestedexcept for FDI.

Orji, Uche and Ilori (2014) employed theSeemingly Unrelated RegressionEstimation (SURE) technique to examinethe implications of fourdifferent types of foreigncapital inflows namely; Foreign DirectInvestment (FDI), Official DevelopmentAssistance (ODA), Foreign Private Investment (FPI) andRemittances (REM) on output growthof the West Africa Monetary Zone (WAMZ) economiesover the period1981-2010. The findings showedthat there are differences in the growthimpact of the variousforms of foreigncapital inflows in theWAMZ countries. The result also showed that more than one formof capital inflow contributed positivelyto output growth inNigeria. Again, it was found out thatODA positively contributed more tooutput growth inSierra Leone and Ghana, whereasFDI fostered more output growth in Nigeriaand Gambia. Remittances have the highestcontribution in Liberia and finally noneof the inflows positively impactedon Guinea’s economic growth.

Okafor, Ugwuegbe and Ezeaku (2016) investigated the relationship betweenforeign capital inflows andeconomic growth in Nigeriafor the period, 1981-2014. In thisstudy, foreign capital inflows had Foreign DirectInvestment, Foreign Portfolio Investmentand Foreign Aid as proxies, while economicgrowth had Gross DomesticProduct (GDP) as proxy. The study employed annual datagenerated from CBN statisticalbulletin and Toda Yamamototest of causality was used to determine therelationship between foreign capital inflowand economic growth in Nigeria. The result revealed thatthere is bi-directional causality runningfrom GDP to FDI as well as fromFDI to GDP. It also indicated that there is aunidirectional causality between FPI and GDPwith causation running fromFPI to GDP. Furthermore, theresult

showed a unidirectionalcausality between GDPand FA with causationrunning from FA to GDP. Finally, the jointcausation between all the componentsof foreign capitalinflow i.e. FDI, FPI, FA and GDP indicates that anincrease in foreign capital inflowcauses GDP to increase positively. And sogovernment should design policiesand programs to enhance theinflows of foreign capital asthey will accelerate the speedof growth in the economy.

Okon, Augustine and Chuku (2012) examinedforeign direct investment andeconomic growth in Nigeria: an analysisof theendogenous effects. This research endeavourset out to empirically investigatethe relationship between foreigndirect investment and economic growth in Nigeriabetween 1970 and 2008. The paper makes theproposition that there is endogeniety i.e., bi-directionalrelationship between FDI and economicgrowth in Nigeria. Single and simultaneousequation systems are employedto examine if there is anysort of feed- back relationship betweenFDI and economic growthin Nigeria. The results obtained show that FDI andeconomic growth are jointlydetermined in Nigeriaand there is positive feedback from FDI to growthand from growthto FDI.

Oyatoye, Arogundade, Adebisiand Oluwakayode (2011) examined thepossible impact and relationship betweenForeign Direct Investmentand Economic Growth inNigeria. The scope cover a period of 20 years (1987 – 2006) bothyears inclusive. Regression analysis of ordinary LeastSquare (OLS) was used in analysingthe data. The study concluded thatthere is a positive relationship betweendirect foreign investment andgross domestic product (GDP). The result further showedthat one naira increasein the value of directforeign investment (DFI) will lead to N104.749 increase in GDP. Thevalue of co-efficient ofdetermination (r2) is 18.5%, showing thatonly 18.5% change in GDP has beenexplained by DFI while the

remaining 81.5% isunexplained by the model. This supports apositive relationshipbetween GDP and DFI.

Olusanya (2013) investigated theimpact of foreign direct investmentinflow on economic growth in a pre andpost deregulated Nigeria economyusing Granger Causality Test with a time seriesdata starting from 1970 to2010. The analysis de-aggregates theeconomy into three period; 1970 to 1986, 1986 to 2010 and 1970 to 2010, to test thecausality between foreign direct investmentinflow (FDI) and economicgrowth (GDP). However, theresult of the causality test showsthat there is causality relationshipin the pre-deregulation era that is (1970-1986) fromeconomic growth (GDP) to foreigndirect investment inflow (FDI) which means GDPcauses FDI, but there is nocausality relationship in thepost-deregulation era that is (1986-2010) betweeneconomic growth (GDP) andforeign direct investmentinflow (FDI) which means GDPcauses FDI. However, between1970 to 2010 it showsthat is causality relationship betweeneconomic growth (GDP) and foreigndirect investment inflow (FDI) that is economic growthdrive foreign direct investmentinflow into the country andvice versa. This study ignored the importantaspect of FDI which is humancapital development and its contributionto financial development.

Adefabi (2011) conducted a study thatexamined the effects of FDI andhuman capital on growth in 24 sub-SaharanAfrican countries using afixed effect estimationtechnique and it was found that thereexisted a weak butpositive effect of FDI oneconomic growth in sub- Saharan Africa. The study also found that aweak complementary effectof FDI and human capital in economicgrowth for sub-SaharanAfrica countries. Empirical evidencerevealed that FDI can affect growthpositively but notthrough accumulationof human capital. This was

attributed to the fact that thebulk of FDI flows in subSaharan Africa movedmostly to the extractiveindustries (resource seeking) with littleor no spillovers to othersectors such as manufacturing and services.

Ogujiuba and Obiechina (2012) examine therelationship existing amongforeign private capital componentsand foreign portfolio investmenteconomic growth and some macroeconomic indicatorsinterest rate and inflation rate aswell as policy implications, there from, using time seriesdata from 1986-2008. A non restrictivevector Autoregressive (VAR) model was developedwhile restriction is imposed toidentify the orthogonal(structural) components of theerror terms – structuralvector Autoregressive (SVAR). The study indicates that the responseof the GDP to shocksfrom the foreign portfolioinvestment is not contemporaneousand this is applicableto other variables. It is somewhatsluggish but returns faster to equilibriumcompared to the responsefrom the NetPortfolio Investment. Restructuring the recursiveCholesky structural decompositionof the impulse response function, both in theshort-run and long-run, the result indicates that theNet Portfolio Investment impacton the GDP at theshort-run, while the NetDirect Investment does not. Also, the interest was shown toimpact on the Net PortfolioInvestment in the short-run.

Ibrahim and Akinbobola (2017) examined therelationship between foreign portfolio investment, democracyand economic growth inNigeria. Time-series datafor the period 1986 to 2013 on foreignportfolio investment and maximumlending rate wereobtained from Central Bank of Nigeria (CBN)Statistical Bulletin, while data onvariables such as GDP growth rate and gross domesticsavings were obtained fromWorld Development Indicators (WDI) database, publishedby the World Bank. UsingE view, the results showed thatforeign portfolio

investment inflow was morestable in democratic periodsbetween 1999 and 2013 than the military periods between1986 and 1998 and that the correlation betweeneconomic growth and foreign portfolioinvestment is positive andvery significant. The result showedthat in the longrun foreign portfolioinvestment had positive and significanteffect on the economic growth in Nigeria. It also showed thatdemocracy had a positive andsignificant effect on economic growth, while it haspositive but not significanteffect onthe relationship between foreign portfolio investmentand economic growth. It was concluded foreignportfolio investment has impact oneconomic growth was very largeand significant in thelongrun. The study recommended that for tosustainable rapid economicgrowth objective, policies should also be directed to theeffective use of resources in theeconomy.

Okafor, Ugwuegbe and Chijindu (2016) investigated therelationship between foreigncapital inflowsand economic growth inNigeria. Tada Yamamoto testof causality was adopted to analyze therelationship between foreigncapital inflows and Nigeriaeconomic growth. It was discovered that there isbi-directional causality runningfrom GDP to FDI and FDI to GDP. Also, there is unidirectionalcausality between FPI and GDP withcausation running from FPI to GDP. In addition, theresult revealed a unidirectionalcausality between GDPand FA with causation testing fromFA to GDP. The joint causationbetween all the componentsof foreign capital inflow show that theincrease on foreign capitalinflow will also leads toincrease in GDP.

Okpoto (2015) researched on impact of foreignprivate investment on the Nigeria’s economic growth from 1980to 2013. The relationship between realGDP and foreign private investment and other selected macroeconomic variables such asinflation, exchange rateand interest rate

were considered. Fromthe tests conducted, there was presenceof unit roots at their first difference whichconformed with theAugmented Dickey Fuller (ADF) resultas well. The terrace test and maximumEigen value test on thevariables identified one cointegrating vector at 5% and 1% criticallevels. Also, the ECM showed along run relationship betweenreal GDP and other variables in themodel. All these suggest the activitiesof FPI have impacted favourably in boostingeconomic activities in Nigeriawithin the period of study.

## Gap in Literature

Empirically some studies noted that theconsequences of integration oneconomic growth are positive. Honig (2008), Koukiand Rezgui (2017) have shown that theinflow of foreign capital is a factorlikely to lead to atransfer of technology, specialization inproduction, allocation of capitaland consequently stimulateseconomic growth. Thereby, the opening of emergingmarkets attracted foreign investorsand increased the flowsof capital towards them. According toHenry (2000), the liberalizationof the emerging markets increased thenumber of foreign investors, which lead to theincrease of the financial markets’ liquidity, thereduction of the costof debt, the improvementof profitability of certain projectsand the increase of economicactivity. Levine (2001) shows that financialintegration positively impactseconomic growth by improvingfinancial markets andbanks. Also the studyof KchirJedidi and Mensi (2010) reveals that thedirect relationship betweenfinancial integration andeconomic growth is positive andstable. They affirmed that thisliberalization of thecapital movements influenced positivelythe integration of thedeveloping economies worldwide. So, thefinancial

integration of the financialmarkets facilitates thepassage from onemarket to another as it allows the increaseof the markets’eficiency.

Others argue that financial integrationdoes not promote economicgains, that is, it does not have significant effectson economic growth asdemonstrated by Kraay (1998). This positive relationship is valid onlyunder certain conditions andcountries need to lift somestrategies to stimulate the realeconomy. A report by Boydand Bruce (1992) on the otherhand, show that financial integration leads to capital outflowsfrom countries with weakinstitutions to those with stronginstitutions. Similarly, Arteta, Eichengreen andWyplosz (2001) indicate that while tradeopenness promotes economicgrowth, financial integration can promote orhurt economic growth regardlessof trade openness. They show thatfinancial integration can hurt an economy if blackmarkets or macroeconomic imbalancesexit, or help in theabsence of these imbalances. KosePrasad and Terrons (2006) explore therelationship between trade and financial integrationand their effect ongrowth- volatility relationshipusing a sample of 85 countries comprisingof 21 industrial countriesand 64 developing countries. The study found that the relationshipbetween growth andvolatility is positive fordeveloped countries, and negativefor developing countries.

The review had pointed outa strong disagreementon the effect of financial integrationon economicgrowth in Nigeria. This disagreementcomes in the form of thedirection of relationshipas well as the levelof significance of therelationship. Some of thesestudies were done inenvironments outside thatof Nigeria while someof the studies done inNigeria did not include somekey variables. Furthermoresome of the studies did not use thestandard econometric methodologywhich leads to structuralproblems; the time framesconsidered in

some of the past studieswere short and not expansiveenough and gave conflictingfindings. These shortcomings have contributed to theknowledge gap in the literature, thuswarranting more systematic and comprehensivestudy on the effect of financial integrationon economic growth inNigeria.

## Theoretical Framework

This study was anchored on thetheory of financial liberalization andendogenous growth theory.

## Theory of Financial Liberalization

McKinnon (1973) and Shaw (1973) were, independently, the first to seriouslychallenge the conventional wisdomof financial repression. In theirseparate works they arguethat the pursuance of policies such aslow and administered interest rates, selectivecredit control, and concessional creditpractices, among other practices, leads to widespreadfinancial repression in developingcountries (McKinnon 1973; Shaw 1973). According to theseauthors, a repressed financialmarket discourages savings, retards theefficient allocationof resources, increases the segmentationof financial markets, and creates financial disintermediationof the banking system. According to thefinancial liberalisation theory, financial repressionthrough interest rate ceilingskeeps interest rates low and thisdiscourages savings with the consequence that the quantityof investment is stifled. Thus investment is constrainedby savings. The qualityof investment is also low becausethe projects that will beundertaken under a regime ofrepression will have a lowrate of return. With financialliberalisation, interest rate deregulationmeans that the interest ratewill rise, thereby increasing savingsand

also investment. The increasedinvestment results in the rationingout of low-yielding projects and the subsequentundertaking of high-yielding projects. The quality of investment risesand this will ultimatelyincrease economic growth. McKinnonand Shaw therefore advocated the liberalisationof such repressed financialsystems so as to promoteeconomic growth.

The McKinnon and Shaw theses onfinancial repression and theirproposal for financial liberalisation became the new orthodoxy in the1970s and 1980s. This orthodoxy has brought a shift of emphasis inpolicy priorities to anextent that it influenced even thethinking of the World Bank andInternational Monetary Fund (IMF).

Financial liberalisation, broadlydefined, can be characterised as theprocess of allowing markets to determine whogets and grants creditand at what price. Full financial liberalisation involves six maindimensions: the elimination of creditcontrols, the deregulationof interest rates, freeentry into the banking sector, bankautonomy, private ownershipof banks, and the liberalisation ofinternational capitalflows. Of these six dimensions, interestrate liberalisation has been themain focus of interestand forms the focusof this study (Khan and Hassan 1998).

The main objective offinancial liberalisation is to build amore efficient, robust, and deeper financial system, which can supportthe growth of private sectorenterprises. Efficiency in this case relatesto two components. The first involves improvedcredit allocation, i.e. credit allocation to borrowerswith higher expectedreturns for given levels ofrisk. The second component ofefficiency is increased competition, resultingfrom liberalized entryand/or the removal ofregulations that restrictcompetition (Khan and Hassan 1998).

According to the proponentsof financial liberalisation, the liberalisationof financial markets allows a more variedand specialised intermediation betweensavers and borrowers, using a multitude ofinstitutions, instruments, andproducts. It also facilitates a freer flowof money to where it can be bestinvested, i.e. with higherrisk-adjusted rates of return. As in othermarkets of the economythe "invisible hand" of thefinancial market is, underfinancial liberalisation, expected to knowhow to match supplyand demand efficiently. Inaddition, the "invisible hand" is ableto identify who wants to saveand/or lend, for whatpurposes, as well as who wants to borrowand on whatterms.

All these arguments in favourof financial liberalisation imply thatfinancial liberalisation has manyadvantages; that is, they are healthyfor the financial sector inparticular and for the economic growthof a nation ingeneral. Specifically, financialliberalisation increases savings, improves the efficiencywith which resources are allocatedamong alternative investment projectsand, therefore, raises the rate ofeconomic growth. It also affords banksand other financial intermediaries morefreedom to act, which increases theirability to confrontrisks. It is also worth mentioningthat since financial liberalisation is adeliberate attempt to move away fromfinancial repression as apolicy to fund fiscal imbalances, it reduces thepossibility of governmentsrunning a budgetdeficit all the time (Cobbina 1999).

In general, the benefitof financial liberalisation has been that it fosters developmentand increases long-rungrowth (Levine 1997; Demirguc-Kunt &Detragiache 1998). Through financial liberalisation, developingcountries can stimulate domesticsavings and growth, and reduce excessivedependence on foreign capitalflows (Demirguc-Kunt and Detragiache 1998).

The theory offinancial liberalisation (i.e. interest rate liberalisation), as postulated by McKinnon and Shaw (1973), holds, as its ultimategoal, the full interest rate liberalisationof the domestic financialmarkets. It maintains that it is onlyfinancial liberalisation that will accelerate thegrowth of the real economy. Whereas thecritics argue that this will lead to stagflation and therefore thestrategy for accelerated growthshould be through increased capacityutilisation. However, the speed at which interest rateliberalisation should occur, the way it should beintegrated into macroeconomicstabilisation programmes and the prerequisites for itssuccess are still underdebate.

The critics, however, argue thathousehold choice of investmentsinclude time deposit, loans to business through theinformal sector and gold orcurrency, and that inresponse to increase in interest rate ondeposits, household will substitute these forgold or cash andloans in the informal sector. Furthermorethey express the view that theoutcome of McKinnon-Kapur depends crucially on oneimplicit assumption on assetmarket structure, an assumptionthat is never statedexplicitly: that the portfolioshift into bank deposit is comingout of “unproductive” assets likegold, cash or inventoriesand that it is not at all obvious thatbank deposit are closersubstitutes to cash orgold than to loan extended on theinformal sector. They argue that interest rateliberalisation is thus financialcrisis and stagflation.

## Endogenous Growth Theory

The Endogenous growththeory posits that the long rungrowth is driven predominantlyby knowledge accumulationby the agents whose aim is profitmaximizing (Romer, 1986). The theory argues that FDI have a long-run effect ongrowth. Lucas (1990) and Romer (1987)

amended the Solowneoclassical model theory byincluding the growth –driving factors of physical capital aswell as human capitalto explain the role of FDI indeveloping countries. FDI was modeled as thegrowth promoting factor throughthe permanent transfer that accompanies FDI. The knowledgetransfer as an externalitywill account for non-diminishing returns thatresults in the long rungrowth. Thus, if the determinantsof growth such as FDI are made endogenousin the growth model, long-runeffect of foreign directinvestments will follow. As a result, a channelwhereby technology spillsover from capital-rich countries to capital-scarceeconomies is the flow of FDI (Barrow &Sala-i-Martin, 1995; Mankiw, 1992). Not only does FDI contribute togrowth throughtechnology transfers andcapital formation, but also does so throughknowledge augmentation in labortraining andskill acquisition. The endogenous growththeory identifies three keychannels through whichFDI affects growth. First, it increases thecapital accumulation of thehost country by introducing newtechnologies and inputs thusmeeting the saving gap neededfor investments.

Second, FDI raises competition in thereceiving country by overcomingbarriers to entry and decreasing the marketpower of the existingcorporations. Finally, its raisesknowledge level and skills in the hostcountry through training. Endogenous growthpostulates that FDI has a positive effect on growthby decreasing the costof research and development through stimulatinginnovation. However, thevolatility of FDI inflows has anegative effect on growth. Thus, if FDI inflows are uncertain, researchcosts are uncertain, which affectincentives to innovatenegatively. Therefore, FDI volatility depresses investmentand negatively affects growth. This theory considers long-termeffect of capital flowsand the volatility on the growth which are the keyobjectives in the currentstudy. However, the theory fails toidentify

the role ofportfolio flows (short-term flows) which plays an important role ingrowth but only centers on long-termcapital flows.

# CHAPTER THREE METHODOLOGY

This chapter explains the methods to beadopted in the study. That is, theapproach of the

study, the populationof the study, the sample, methods of data collection and analysis among

others were clearly discussed.

## Research Design

The study will adopt longitudinalresearch design. It is a research designthat involves repeated observations of the samevariables over short or longperiods of time. Longitudinal studies are a type of correlationalresearch in which researchersobserve and collect data on a number of variables withouttrying to influence thosevariables. The design will be adopted because it enables theresearcher to detect developmentsor changes in the characteristicsof the target populationat both the group and theindividual level.

## Nature and Sources of Data

The data of this research work will be timeseries in nature and will be taken from he year 1986 to 2020, so there will be a tota thirty-four (34) years data which will be obtained to conduct the study. Data on real grossdomestic product, net foreign portfolio inflow, net foreign direct investment inflow, trade openness, remittances, financialdeepening (proxied by credit to the privatesector as a percentageof GDP), official development assistance, exchange rate, interest rate will be collected from annualreports of Central Bankof Nigeria 2020.

## Method of Data Analysis

The statistical tools used in this study are presented below.

**Descriptive Statistics:** The descriptivestatistics will be introductory analysesthat will explain the normalityof the variables used forthe analyses. Descriptive statisticsinclude the mean, median, minimum andmaximum, standard deviation and Jacque Beratests. Mean is the averagevalue of the series, obtained byadding up the series and dividing by thenumber of observations. Median is the middlevalue (or average of the twomiddle values) of the series when thevalues are orderedfrom the smallest to thelargest. The median is a robustmeasure of the centre of thedistribution that is lesssensitive to outliers than themean. Max and Min are the maximum andminimum values of theseries in the currentsample. Std Dev. (standard deviation) is a measureof dispersion or spread in theseries. Skewness is ameasure of asymmetry of thedistribution of theseries around its mean. Kurtosis measures thepeakiness or flatness of thedistribution of theseries. If the kurtosis exceeds 3, thedistribution is peaked (leptokurtic) relativeto the normal; if thekurtosis is less than 3, thedistribution is flat (platykurtic) relative to thenormal. Jarque-Bera is a test statisticfor testing whether the series is normallydistributed. The null hypothesis is that thevariable is normallydistributed. Decision rule is to reject when p.value is less than 0.05 level of significance

**Unit Root Tests:** One of the importanttypes of data used in mostempirical works is time- series data. Theseempirical works that are basedon time-series data always assumethat the underlying timeseries is stationary. A stationarytime series is the one whose meanvariances, and auto-covariance areconstant over time. However, it is widely known that mosteconomic time series are non-stationaryand the regression of anon-stationary time series onanother

non-stationary time seriesmay lead to spuriousregression. A spurious regressionis one with high R-squared and significantt-ratios even whenthere is no theoretically meaningful relationshipbetween the variablesof interest. To avoid the problem ofspurious regression, there is a need for unitroot test (that is, to test whether avariable is stationaryor not). The followings are themethods people use intesting for the stationarityof economic variables: the Augmented Dickey-Fuller (ADF)test. This study would employ theAugmented Dickey- Fuller (ADF) tests. Thus, our ADF testconsists of estimating thefollowing equation:

𝑚

∆𝑌𝑡 = 𝛽1 + 𝛽2𝑡 + 𝛿𝑌𝑡−1 + ∑ 𝛼𝑖∆𝑌𝑡−𝑖 + 𝜀𝑡 − − − − − − − (3.1)

𝑖=1

Where εt is a pure white noiseerror term; t is time trend; Yt is thevariable of interest; β1, β2, δ and αi are parametersto be estimated; and Δ is thedifference operator. In theADF approach, we test whether δ = 0.

**Cointegration Test:** Following thestationarity tests, cointegrationtest would be carried out using the Johansenapproach to cointegration. Co-integration test tells aboutwhether there exists long term relationshipbetween the variables. The prerequisiteof applying this test is to first check for unitroot so that it is decidedwhether the series isstationary or not. For testing the existenceof co-integration between thevariables a method developedby Johansen and Juselius (1990) is used. This test impliesmaximum likelihood method toestimate and determine the existenceof co-integrating vectorsin a “vector autoregressive (VAR) system”. The Johansen Cointegrationtest suggests two teststatistics one is traceand the other one is maximum eigenvalue tofind out the numberof co-integrating vectors. If there is any

difference between the resultsof trace test and maximumeigenvalue test, then the resultsof maximum eigenvalue test ispreferred because it is moreauthentic in case of smallsamples.

**Error Correction Model:** If a stable longrunrelationship is confirmed fromthe co- integration test, then we shallestimate the short-rundynamic coefficients through error correctionmodel. The sign of the *ECM(-1)* must be negativeand significant to ensure convergence of thedynamics to the long-runequilibrium. The value of thecoefficient, Ѱ, which signifies thespeed of convergence to theequilibrium process, usuallyranges from -1 to

0. While -1 signifies perfectand instantaneous convergence, 0 meansno convergence after a shock in theprocess. Further, Pesaran andPesaran (1997) argued that it isimperative to ascertain the constancyof the long-run multipliersby testing the above error-correctionmodel for thestability of itsparameters.

## Estimation Criterion

Meanwhile, after theestimation of the model, we will proceedwith the evaluationof the results of the calculations, whichdeals with the determination of thereliability of these results. The evaluations consistof deciding whether the estimates of theparameters are theoretically meaningful, statisticallyand econometrically satisfactory. For this, we will usevarious criteria which are classifiedinto three groups.

**Economic Criterion:** As summarized by Iyoha (2004), thiscriterion discusses the appropriateness of thespecification of the modelfrom the point of view ofeconomic theory. This criterion includesexamining whether all relevantvariables have been includedand analysis of the conformityof the empirical results, particularlysigns and magnitude, with

relevanttheory. This also examines whether the results agree with apriori specification or not and how do theysatisfy restrictions contained in theunderlying theory.

**Statistical Criterion (First-Order Test):** Under thiscriterion, the OLS estimates are evaluated based onstatistical theory. This criterion is alsocalled the first-order testbecause it tests the reliabilityof economic theory. This criterion uses teststatistics such as theR-squared and R-squaredadjusted; F-statistic and theT-statistics to evaluate thereliability of the estimates. The R-squaredand R-squared Adjusted measure thepercentage of totalvariations in the dependentvariable that was accountedfor by variations in theindependent variables. That is, they measure theexplanatory powers of theexplanatory variables but theR-squared adjusted accountsfor loses in the degreeof freedom.

The **F-statistic** measures the overall significance of the regression model.

**T-Statistics**: The T-statistics measure theindividual significance of theparameter estimates.

**Econometric Criterion (Second-Order Test):** Thiscriterion is also called thesecond-order test because it tests thereliability of statisticaltheory. Under thiscriterion, we test the OLS estimates for variouseconometric problemssuch as the problemof Autocorrelation; Heteroskedasticity; andMulticollinearity problems. The OLS assumes noautocorrelation in the residuals, explanatoryvariables are not perfectlycorrelated (no multicollinearity), the variance of the errorterm is constant (homoscedasticity) and normalityof the error term. In this study, we shall use theDurbin-Watson statistic to test forautocorrelation, Breush- Godfery-Pagan statisticfor heteroskedasticity test, correlationmatrix for multicollinearity test, and Jaque-Bera statisticfor normality test.

## Diagnostic Statistics

The reliability of the econometric models of estimationand data analysis will bedetermined using:

**Multicolinearity Test:** Multicollinearityis a type of disturbance in thedata because the presence of multicolinearity inthe data makes the OLSestimators impreciselyestimated (Ranjit, 2006). Presence of high multicollinearity, causesthe confidence intervalsof the coefficients tend tobecome very wideand the statistics tend to be very small, making the hypothesis testingto be misguided. Presenceof multicolinearity is tested using thecoefficients of correlationmatric. High degree ofcorrelation coefficient say above 0.9 indicatespossibility of multicolinearity. If multicolinearity ispresent, variance inflationfactor (VIF) will be done to identify the variablethat are correlated. One will be removedto give more acceptable result

**Normality Test:** The models are examinedfor normal distribution. The Jarque-Bera (JB) statistics is used to testfor the normality ofthe models. The null hypothesis is that themodels are normallydistributed. The decision rule is to reject the nullhypothesis if the p.value is less than 0.05 level of significance.

**Serial Correlation Test:** The correlationof time periods in a time seriesanalyses has a huge effecton the reliability of modelestimation. It may lead to highsignificant value, inefficient estimation, exaggeratedgoodness of fit and falsecoefficient of regressionsign (positive or negative). The presence of serialcorrelation is tested using theBreusch-Godfrey Serial CorrelationLM Test. The nullhypothesis is no presenceof serial correlation. The decision rule is to reject the nullhypothesis if the p. value is lessthan 0.05 level ofsignificance.

**Heteroskedacity Test:** Presence ofheteroskedasticity in linearregression analysis, implies that the modelcoefficients estimatedusing ordinary least squares (OLS) are biased. This occurs when the varianceof errors or the model is not thesame for all observations. The null hypothesis is thatthe residuals are homoscedasticand the alternatehypotheses are that the residuals areheteroscedastic. The decision rule is to reject the nullhypothesis if the p.value is less than 0.05 level ofsignificance.

## Test of Research Hypotheses

A statistical hypothesis is astatement or assumptionabout an unknown populationparameter which is yet to beverified. A test performed in order toverify whether a hypothesisis true or false is called a test ofhypothesis. The hypothesisabout any population parameter is tested using dataobtained from a sampledrawn from the population inquestion. If the resultobtained from the sample isinconsistent with thehypothesis being tested, we have toreject the hypothesisand vice versa.

In testing the hypotheses, thet-statistics value in the ECMwas used. The t-statistics help to determine the individual significance of each of the parameter estimates at a given level of significance. The hypothesis is stated as follows:

**H0:** βi = 0 (parameter estimate is statistically insignificant)

**H1:** βi  0 (parameter estimate is statistically significant).

The critical value for a two-tailed test is obtained from the t-table for

 /2

level of

significance with (n-k) degree of freedom (df). Where α = 5% = 0.05;

 /2 = 0.025, k =

number of parameters including the intercept in the regression, n = number of observation. Decision Rule: if /tcal/ > t0.025 (n-k), we reject H0, otherwise we accept it.

## Model Specification

The specificationof the models for thiswork is based on the objective of the study. The model measures the effect of financialintegration on economic growth inNigeria. The study adopted the model of Olaniyi (2013). Theirmodel is stated below:

GDPC = ϰ0 + ϰ1 FI1 + ϰ2 FI2 + ϰ3 TD

FI1 = Net capital inflow to GDP (proxy forfinancial integration) FI2 = Net FDI inflow to GDP (proxy forfinancial integration) TD = Trade openness

**The model was adopted and modified.** Thefunctional form of the modelused in this study is specified asfollows:

RGDP = ƒ(FDI, FPI,TOP, REM, ODA, EXCH, INT, CPS/GDP)

|  |  |  |
| --- | --- | --- |
| Where |  | |
| RGDP | = | Real GrossDomestic Product |
| FPI | = | Foreign PortfolioInvestment Inflow |
| FDI = |  | Foreign Direct Investment Inflow |
| TOP | = | TradeOpenness |
| REM = |  | Remittances |
| ODA = |  | Official DevelopmentAssistance |

CPS/GDP = Credit to private sectoras a percentage ofGDP (Proxy forfinancial deepening)

INT = Interest Rate (ControlVariable) EXCH = Exchange Rate (ControlVariable)

From functionalform, the econometricform is stated thus:

RGDP = βo + β1FPI + β2FDI + β3TOP + β4REM + β5ODA + β6CPS/GDP + β7INT

+ β8EXCH + µ (1)

Where

βo = Autonomous orintercept β1 to β7= Coefficient ofParameters

µ = Stochastic variableor error term

To linearize equation 1, we apply logarithmto equation 2 whichgives:

LRGDP = βo + β1LFPI + β2LFDI + β3LTOP + β4LREM + β5LODA + β6CPS/GDP

+ β7INT + β8EXCH + µ (2)

Where

LRGDP= Log of RealGross Domestic Product

LFPI = Log ofForeign Portfolio Investment Inflow LFDI = Log ofForeign Direct Investment Inflow LTOP = Log of TradeOpenness

LREM = Log of Remittances

LODA = Log of OfficialDevelopment Assistance INT/EXCH = Control Variables

# CHAPTER FOUR

**DATA PRESENTATION AND ANALYSIS**

## Introduction

This section deals with the presentationanalysis and interpretation of workgotten so far in this study. This is based on the words ofPyndricks (2005) that no set of data ismeaningful until it is presentedand interpreted by the user or researcher. The empiricalanalysis are done under the following sectionsand the data used for the analysis areattached as Appendix I.

## Descriptive Statistics

Descriptive statistics measurethe individual characteristics of thevariables used in this study. It shows the mean, medianstandard deviation, Jarque-Beraand its probability value (Used to measures normality of the data). The result of the descriptivestatistics is presented in the table below.

## Table 1 Descriptive Statistics

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **RGDP** | **FDI** | **FPI** | **ODA** | **REM** | **CPS\_GDP** | **TOP** | **INT** | **EXCH** |
| Mean | 38577.16 | 1209.514 | 89.75086 | 3340.269 | 238.5011 | 11.90285 | 68.07457 | 19.01571 | 94.12800 |
| Median | 31709.45 | 296.6000 | 117.9700 | 281.9000 | 137.5800 | 8.616549 | 71.35000 | 17.95000 | 117.9700 |
| Maximum | 71387.83 | 3924.100 | 169.2300 | 19077.40 | 949.1900 | 22.75484 | 97.30000 | 36.09000 | 185.4700 |
| Minimum | 15237.99 | 22.20000 | 0.890000 | 16.30000 | 10.51000 | 5.806165 | 45.20000 | 10.50000 | 2.020000 |
| Std. Dev. | 20479.94 | 1378.770 | 65.66546 | 5526.912 | 262.8775 | 5.596864 | 11.21954 | 4.828348 | 65.95810 |
| Skewness | 0.438965 | 0.747970 | -0.254086 | 1.594983 | 1.198360 | 0.562027 | 0.049038 | 1.561912 | -0.247025 |
| Kurtosis | 1.576438 | 1.862546 | 1.283418 | 4.208232 | 3.624333 | 1.576468 | 3.184479 | 6.351314 | 1.432800 |
| Jarque-Bera | 4.079382 | 5.150300 | 4.673804 | 16.96875 | 8.945495 | 4.797830 | 0.063658 | 30.60980 | 3.937795 |
| Probability | 0.130069 | 0.076142 | 0.096627 | 0.240207 | 0.311416 | 0.090816 | 0.968672 | 0.408725 | 0.139611 |
| Sum | 1350200. | 42333.00 | 3141.280 | 116909.4 | 8347.540 | 416.5997 | 2382.610 | 665.5500 | 3294.480 |
| Sum Sq. Dev. | 1.43E+10 | 64634257 | 146606.4 | 1.04E+09 | 2349557. | 1065.046 | 4279.858 | 792.6401 | 147916.0 |
| Observations | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |

Source: Author’s Computation from E-view 9.

Table 1 above reveals the individualcharacteristics of the variablesused in this study highlighting their mean, maximumand minimum values, standard deviationand Jarque-Bera statistics (normality Test). The descriptiveresults in Table 1a above showed that the data of the studycovered 35 observations for all thevariables, that is, a timeframeof 35 years from 1986 to 2020. Real gross domesticproduct (RGDP) has a meanvalue of 38577.16 with maximumvalue of 71387.83 and minimumvalue of 15237.99. It also recorded astandard deviation of 20479.94 which is lowerthan its mean. This shows that realgross domestic product recordedslow growth withinthe period underreview. RGDP also recorded aJarque- Bera valueof 4.079382 with a probabilityvalue of 0.130069 which is within theacceptable threshold indicating thatRGDP is normally distributed.

Foreign direct investment has a meanvalue of 1209.514 with maximumvalue of 3924.100, minimumvalue of 22.20000 and a standarddeviation of 1378.770. It also recordeda Jarque- Bera value of 4.079382 witha probability valueof 0.076142 which is within theacceptable threshold indicatingthat foreign direct investment is normallydistributed.

Foreign portfolio investment has a meanvalue of 89.75086 withmaximum value of 3924.100, minimum value of 0.890000and a standard deviationof 65.66546. It also recorded aJarque- Bera valueof 4.673804 with a probabilityvalue of 0.096627 which is within theacceptable thresholdindicating that foreignportfolio investment isnormally distributed.

Official developmentassistance has a mean valueof 3340.269 with maximumvalue of 19077.40, minimum valueof 16.30000 and a standard deviationof 5526.912. It also recorded a Jarque-Bera valueof 16.96875 with a probabilityvalue of 0.240207 which is withinthe acceptable threshold indicating thatOfficial development assistance is normallydistributed.

Remittance has a meanvalue of 238.5011 with maximumvalue of 949.1900, minimumvalue of 10.51000 and a standarddeviation of 262.8775. It also recorded aJarque-Bera value of 8.945495 with a probabilityvalue of 0.311416 which is within theacceptable threshold indicating thatremittance is normally distributed.

Credit to private sectoras apercentage of GDP a Proxy for financialdeepening has a mean value of 22.75484 witmaximum value of 22.75484, minimumvalue of 5.806165 and a standarddeviation of 5.596864. It also recordeda Jarque-Bera valueof 4.797830 with a probability value of0.090816 which is within theacceptable thresholdindicating that Credit to private sector as apercentage of GDP is normallydistributed.

Trade openness andinterest rate recorded meanvalue of 68.07457 and 19.01571 with standard deviation valuesof 11.21954 and 4.828348 respectively. They recorded Jarque-Beravalues of 0.063658 and 30.60980 with itsprobability values of 0.968672and 0.408725 respectively indicating that tradeopenness and interest rate are normallydistributed.

Exchange rate has a meanvalue of 94.12800 withminimum value of 2.020000maximum value of 185.4700 and astandard deviation of65.95810. It also recorded a Jarque-Beravalue of 3.937795 with aprobability value of 0.139611which is within the acceptablethreshold indicating that exchangerate is normallydistributed.

## Unit Root Test

The first step involves testing the orderof integration of the individualvariables under consideration. Researchers hav developed several procedures for the test ofintegration, but

the most popular ofthem is the Augmented Dickey Fuller (ADF) test. The result ispresented below.

## Table 2: Result of the Unit Root Test

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **AT LEVELS** | | | | | | | | | |
| **Variable s** | **ADF**  **Statistics** | **Critical Values** | | | **Order of**  **Integratio n** | **P -**  **Value** | | **Remark** | |
| **1%** | **5%** | **10%** |
| RGDP | -2.316020 | -3.670170 | -2.963972 | -2.621007 | 1(0) | 0.1737 | | Non-stationary | |
| FDI | -0.597874 | -3.646342 | -2.954021 | -2.615817 | 1(0) | 0.8578 | | Non-stationary | |
| FPI | -0.917336 | -3.639407 | -2.951125 | -2.614300 | 1(0) | 0.7704 | | Non-stationary | |
| ODA | 0.360654 | -3.639407 | -2.951125 | -2.614300 | 1(0) | 0.9781 | | Non-stationary | |
| TOP | -3.236628 | -3.661661 | -2.960411 | -2.619160 | 1(0) | 0.0272 | | Non-stationary | |
| REM | -2.748581 | -3.639407 | -2.951125 | -2.614300 | 1(0) | 0.0765 | | Non-stationary | |
| INT | -3.427332 | -3.639407 | -2.951125 | -2.614300 | 1(0) | 0.0868 | | Non-stationary | |
| CPS/GDP | -0.683402 | -3.653730 | -2.957110 | -2.617434 | 1(0) | 0.8370 | | Non-stationary | |
| EXCH | -0.981612 | -3.639407 | -2.951125 | -2.614300 | 1(0) | 0.7486 | | Non-stationary | |
| **AT FIRST DIFFERENCE** | | | | | | | | | |
| **Variable s** | **ADF**  **Statistics** | **Critical Values** | | | **Order of Integration** | | **P –**  **Value** | | **Remark** |
| **1%** | **5%** | **10%** |
| RGDP | -4.146308 | -3.646342 | -2.954021 | -2.615817 | 1(1) | | 0.0009 | | Stationary |
| FDI | -4.154537 | -3.646342 | -2.954021 | -2.615817 | 1(1) | | 0.0027 | | Stationary |
| FPI | -4.840869 | -3.646342 | -2.954021 | -2.615817 | 1(1) | | 0.0004 | | Stationary |
| ODA | -5.567952 | -3.646342 | -2.954021 | --2.615817 | 1(1) | | 0.0001 | | Stationary |
| TOP | -4.349859 | -3.670170 | -2.963972 | -2.621007 | 1(1) | | 0.0013 | | Stationary |
| REM | -7.879545 | -3.646342 | -2.954021 | -2.615817 | 1(1) | | 0.0000 | | Stationary |
| INT | -4.586719 | -3.711457 | -2.981038 | -2.629906 | 1(1) | | 0.0012 | | Stationary |
| CPS/GDP | -5.317146 | -3.653730 | -2.957110 | -2.617434 | 1(1) | | 0.0001 | | Stationary |
| EXCH | -5.654742 | -3.646342 | -2.954021 | -2.615817 | 1(1) | | 0.0000 | | Stationary |

Source: Author’s Computation Using E-View Version 9.0

From the unit root table above, it wasobserved that all the variablesare integrated at 1st difference. Since the decisionrule is to reject stationarity if ADFstatistics is less than 5% critical value, and acceptstationarity when ADFstatistics is greater than 5% criteriavalue, the ADF absolute valueof each of these variables is greaterthan the 5% critical value attheir first difference butless than 5% critical value in theirlevel form. Therefore, all thevariables are all stationary.

## Cointegration Test

Cointegration means that there is acorrelationship among thevariables. Cointegration test is done on the residualof the model. Since theunit root test shows that all thevariables are stationary, we go furtherto carry out the cointegration test. The essenceis to show whether the variables have a long termrelationship or equilibriumamong them. That is, thevariables are cointegratedand will not produce aspurious regression. The result is presentedin table 3 below.

## Table 3: Result of Cointegration Test

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Unrestricted Cointegration Rank Test (Trace) | | | | |
| Hypothesized |  | Trace | 0.05 |  |
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.\*\* |
| None \* | 0.936456 | 328.3464 | 197.3709 | 0.0000 |
| At most 1 \* | 0.883467 | 237.3978 | 159.5297 | 0.0000 |
| At most 2 \* | 0.809735 | 166.4616 | 125.6154 | 0.0000 |
| At most 3 \* | 0.648905 | 111.7034 | 95.75366 | 0.0026 |
| At most 4 \* | 0.632945 | 77.16236 | 69.81889 | 0.0115 |
| At most 5 | 0.459277 | 44.08830 | 47.85613 | 0.1081 |
| At most 6 | 0.375165 | 23.79833 | 29.79707 | 0.2091 |
| At most 7 | 0.221669 | 8.279514 | 15.49471 | 0.4360 |
| At most 8 | 0.000291 | 0.009592 | 3.841466 | 0.9217 |
| Trace test indicates 5 cointegrating eqn(s) at the 0.05 level | | | | |
| \* denotes rejection of the hypothesis at the 0.05 level | | | | |
| Unrestricted Cointegration Rank Test (Maximum Eigenvalue) | | | | |
| Hypothesized |  | Max-Eigen | 0.05 |  |
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.\*\* |
| None \* | 0.936456 | 90.94867 | 58.43354 | 0.0000 |
| At most 1 \* | 0.883467 | 70.93620 | 52.36261 | 0.0003 |
| At most 2 \* | 0.809735 | 54.75813 | 46.23142 | 0.0049 |
| At most 3 | 0.648905 | 34.54109 | 40.07757 | 0.1843 |
| At most 4 | 0.632945 | 33.07406 | 33.87687 | 0.0621 |
| At most 5 | 0.459277 | 20.28997 | 27.58434 | 0.3214 |
| At most 6 | 0.375165 | 15.51882 | 21.13162 | 0.2542 |
| At most 7 | 0.221669 | 8.269922 | 14.26460 | 0.3519 |
| At most 8 | 0.000291 | 0.009592 | 3.841466 | 0.9217 |
| Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level | | | |  |
| \* denotes rejection of the hypothesis at the 0.05 level | | | |  |
| \*\*MacKinnon-Haug-Michelis (1999) p-values | | | |  |

Source: Author’s Computation Using E-View Version 9.0

The results contained in Table 3 above showthat both the trace test values and the Max-eigen values show 3co-integrating equations. Hence, the nullhypothesis (H0) is rejected infavor of the alternativehypotheses. This implies that along-run equilibrium relationship exists among the variables. As a result, we conclude that there existsa long run relationship between financial integrationwith that of economicgrowth in Nigeria over thestudy period.

## Presentation and Error Correction Model (ECM)

This section accounted for ECM estimates and the result is briefly discussed below:

## Table 4 The Error Correction Model

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: LRGDP | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| ECM(-1) | -0.468294 | 0.232636 | -2.012994 | 0.0455 |
| LFDI | 3.528826 | 1.170760 | 3.014132 | 0.0057 |
| LFPI | 194.0636 | 29.52935 | 6.571888 | 0.0000 |
| REM | -3.618610 | 2.683385 | -1.348524 | 0.1891 |
| LODA | 0.984469 | 0.193491 | 5.087938 | 0.0000 |
| LTOP | 140.6051 | 50.61836 | 2.777748 | 0.0100 |
| LINT | 122.0478 | 120.9420 | 1.009144 | 0.3222 |
| LEXCH | -53.27011 | 25.85094 | -2.060664 | 0.0495 |
| LCPS\_GDP | 547.9377 | 209.5871 | 2.614367 | 0.0147 |
| C | 1066.001 | 4946.074 | 0.215525 | 0.8310 |
| R-squared | 0.684646 | Mean dependent var | | 38577.16 |
| Adjusted R-squared | 0.679922 | S.D. dependent var | | 20479.94 |
| S.E. of regression | 2901.975 | Akaike info criterion | | 19.00120 |
| Sum squared resid | 2.19E+08 | Schwarz criterion |  | 19.40115 |
| Log likelihood | -323.5211 | Hannan-Quinn criter. | | 19.13927 |
| F-statistic | 208.4198 | Durbin-Watson stat | | 1.892712 |
| Prob(F-statistic) | 0.000000 |  | |  |

Source: Author’s Computation Using E-View Version 8.0

Using the estimated result of the fitted regressionline in table 5, the following were observed

**Foreign Direct Investment (FDI)**: The result showed that the coefficient of foreigndirect investment is 3.528826 with at-statistics value of 3.014132 and a probabilityvalue of 0.0057

which is highlysignificant. This implies that foreign direct investmenthad a significant positive effect on economicgrowth in Nigeria.

**Foreign Portfolio Investment (FPI)**: The result showed that the coefficient offoreign portfolioinvestment is 194.0636 with at-statistics value of 6.571888 and aprobability value of 0.0000 which is highlysignificant. This implies that foreignportfolio investment had a insignificant positive effecton economicgrowth in Nigeria.

**Remittances (REM)**: Table5 showed that theestimation coefficient ofremittances is - 3.618610 with a t-statisticsvalue of -1.348524and a probability value of 0.1891which is statisticallyinsignificant. This implies thatremittances had a negative andinsignificant effect on economic growth inNigeria.

**Official Development Assistance (ODA)**: The resultshowed that the coefficient ofofficial developmentassistance is 0.984469 with a t-statisticsvalue of 5.087938 and aprobability value of 0.0000 which isstatistically significant. This implies that official development assistance had asignificant positive effecton economic in Nigeria within theperiod under review.

**Interest Rate (INT)**: Table 5 showed that theestimation coefficient ofinterest rate is 122.0478 with a t-statisticsvalue of 1.009144 and a probabilityvalue of 0.3222 which is statistically insignificant. This implies that interest ratehad an insignificant positiveeffect on economic growth inNigeria within the periodunder review.

**Exchange Rate (EXCH)**: The result showed that thecoefficient of exchangerate is -53.27011 with a t-statistics valueof -2.060664 and aprobability value of 0.0495 which isstatistically

significant. This implies thatexchange rate had asignificant negative effect oneconomic growth in Nigeria.

**Credit to Private Sector as a Percentage of Gross Domestic Product (CPS/GDP)** Table 5 showed that thecoefficient of credit toprivate sector as apercentage of grossdomestic products (a proxy for financialdeepening) is 547.9377 with a t-statistics valueof 547.9377 and aprobability value of 0.014which is statistically significant. This implies thatcredit to privatesector as a percentage of gross domesticproducts had a significant positiveeffect on economic growthin Nigeria within theperiod under review.

**Trade Openness (TOP)**: The result showed that theestimation coefficient of tradeopenness is 140.6051 with a t-statisticsvalue of 2.777748 and a probabilityvalue of 0.0100 which is statisticallysignificant. This implies thattrade openness had a significantpositive effect on economic growth inNigeria

**Coefficient of Determination (R2)/Adjusted R2**: From table 5, thecoefficient of determination (R2) is 0.684646 withadjusted R2 value of 0.679922, which showsthat the explanatorypower of the variables ishigh. This implies thatonly 68.5% of thevariations in economicgrowth in Nigeria are explained by thevariations in foreign directinvestment, foreign portfolio investmenttrade openness, remittances, officialdevelopment assistance, credit to private sector as apercentage of GDP, interest rateand exchange rate.

**F-statistics**: The F-test was applied tocheck the overall significanceof the model. The F- statistic is instrumental inverifying the overall significanceof an estimated model. Table 5 shows f-statistics valueof 208.4198 with its probabilityvalue of 0.000000 which is highly

significant. This indicatesthat foreign direct investmentforeign portfolio investment, trade openness, remittancesofficial developmentassistance, credit to privatesector as a percentage of GDP, interest rate andexchange rate have no joint significant effecton economic growth in Nigeria.

**Durbin-Watson (DW) Statistics**: From the regressionresult in Table 5, the DurbinWatson D-Statistic obtained was 1.892712 which can beapproximated 2. This means thatthere is no autocorrelationin the model. Hence, themodel can be used for realisticforecasts.

**Error Correction Mechanism**: Fromthe result obtained intable 5, ECT (-1) has negative coefficient value of 0.468294 with aprobability value of 0.0455. This suggests that theprevious years would be corrected in thefollowing year at anadjustment rate of 10%. Hence,there is convergence of the studyvariables (real gross domesticproduct, foreign directinvestment, foreign portfolio investmenttrade openness, remittancesofficial development assistance, credit to private sectoras a percentage of GDP, interest rateand exchange rate) to longrun relationship equilibriumrelationship. On this premise, we conclude that the coefficients are significantly differentlyfrom zero signposting that financialintegration on thehas high statistical significant effect oneconomic growth of Nigeriaon the short run.

## Diagnostic Statistics

The reliability of the econometric modelsof estimation and data analysiswere determined using Serial Correlation and Heteroskedascity and the resultswere presented below.

## Serial Correlation Test

Serial correlation investigates whetherthere is a correlation between onetime period and another over time in thetime series used for theanalyses. The presenceof correlation of time periods will lead toserial correlation which will have hugeeffect on the reliabilityof model estimation. It may lead to highsignificant value, inefficient estimationexaggerated goodness of fit and falsecoefficient of regressionsign (positive or negative). The presenceof serial correlation is testedusing Breusch-GodfreySerial Correlation LM Test. The nullhypothesis is no presenceof serial correlation.

**The Decision Rule:** The decisionrule is to reject thenull hypothesis if the p. value isless

## Table 5: Serial Correlation Test for the Model

|  |  |  |  |
| --- | --- | --- | --- |
| Breusch-Godfrey Serial Correlation LM Test: | | | |
| F-statistic | 4.507049 | Prob. F(2,24) | 0.1218 |
| Obs\*R-squared | 9.556325 | Prob. Chi-Square(2) | 0.1084 |

Source: Author’s Computation from E-view 9.0

Table 6 indicates F-statistic value of 4.507049 withprobability value of 0.1218which is greater than 0.05. This indicatesthat there is no serialcorrelation (of time series) in the model. This confirms that the natureof the relationship (negativeor positive) as found in the estimation fromthe rror Correction Mechanism (ECM) is correct and trueof the model characteristics. This implies that theresult of the test of hypothesis from the ECMgives correct position of the effectof financial integration on economicgrowth in Nigeria.

## Heteroskedasticity Test

Heteroskedasticity was also tested for thelinear regression analysis. Presenceof heteroskedasticity impliesthat the coefficients estimated fromthe regression analyses will be a biased one. Presenceof heteroskedasticity means that there is anunequal error variance in the modelfrom the data observations. The nullhypothesis is that the residualsare homoscedastic and the alternatehypotheses are that the residuals are heteroscedastic.

**The Decision Rule:** The decision rule is toreject the null hypothesisif the p. value is less than

0.05 level of significance.

## Table 6: Heteroskedasticity Test for the Model

|  |  |  |  |
| --- | --- | --- | --- |
| Heteroskedasticity Test: Breusch-Pagan-Godfrey | | | |
| F-statistic | 0.905751 | Prob. F(8,26) | 0.5266 |
| Obs\*R-squared | 7.628290 | Prob. Chi-Square(8) | 0.4706 |
| Scaled explained SS | 4.676163 | Prob. Chi-Square(8) | 0.7916 |

Source: Author’s Computation from E-view 9.0

The F-statistic of the Breusch-GodfreySerial Correlation LM test is 0.905751with probability valueof 0.5266. Since the probabilityvalue is greater than 0.05, we cannot reject thenull hypothesis that theresiduals are homoscedastic. Thus we conclude thatthere is no heteroscedastic in the model. This implies that theresult obtained from theestimated model is not biased.

## Test of Hypotheses

In this section, the hypothesesformulated earlier in the studywere tested for empirical significance and theresults are presented below. The t value in theECM result which measures the individualsignificance of the variableand the probabilityvalues were used.

## Test of Hypothesis One

Ho: Foreign direct investment inflow has nosignificant effect on economic growthin Nigeria.

Hi: Foreign direct investment inflow has significant effecton economic growth in Nigeria.

Based on the t-statistics valueof 3.014132 and probability valueof 0.0057 in Table 5 which is statistically significant, we reject the nullhypothesis and accept thealternative hypothesis. This implies that foreign directinvestment inflow has significant effect oneconomic growth inNigeria.

## Test of Hypothesis Two

Ho: Foreign portfolio investmentinflow has no significant effecton economic growth in Nigeria.

Hi: Foreign portfolio investment inflow has significant effecton economic growth in Nigeria.

Based on the t-statistics value of 6.571888 and its probability valueof 0.0000 in Table 5 which is statistically significant, we reject the null hypothesis andaccept the alternative

hypothesis. This implies that foreign portfolio investment inflow has significant effect on economic growth in Nigeria.

## Test of Hypothesis Three

Ho: Trade openness has no significant effect on economic growth in Nigeria. Hi: Trade openness has significant effect on economic growth in Nigeria.

Based on the t-statistics value of 2.777748 and its probability value of 0.0100 in Table 5 which is statistically significant, we reject the null hypothesis and accept the alternative hypothesis. This implies that trade openness has significant effect on economic growth in Nigeria.

## Test of Hypothesis Four

Ho: Foreign remittances have no significant effect on economic growth in Nigeria. Hi: Foreign remittances have significant effect on economic growth in Nigeria.

Based on the t-statistics value of 2.614367 and its probability value of 0.0147 in Table 5 which is statistically insignificant, we accept the null hypothesis and reject the alternative hypothesis. This implies that financial deepening have significant effect on economic growth in Nigeria.

## Test of Hypothesis Five

Ho: Foreign remittances have no significant effect on economic growth in Nigeria. Hi: Foreign remittances have significant effect on economic growth in Nigeria.

Based on the t-statistics value of -1.348524 and its probability value of 0.1891 in Table 5 which is statistically insignificant, we accept the null hypothesis and reject the alternative hypothesis. This implies that foreign remittances have no significant effect on economic growth in Nigeria.

## Test of Hypothesis Six

Ho: Financial deepening has no significant effect on economic growth in Nigeria. Hi: Financial depending has significant effect on economic growth in Nigeria.

Based on the t-statistics value of 5.087938 and its probability value of 0.0000 in Table 5 which is statistically significant, we reject the null hypothesis and accept the alternative hypothesis. This implies that official development assistance has significant effect on economic growth in Nigeria.

# CHAPTER FIVE DISCUSSION OF FINDINGS

In this section, the findings based on the objectives of the studywere presented and discussed.

## Foreign Direct Investment Inflow and Economic Growth in Nigeria

The study found that foreign direct investment inflow has significant effect on economic

growth in Nigeria. This implies that foreign direct investment contributes significantly to

economic growth in Nigeria within the period under review. This is supported byt-statistics

value of 3.014132 and probability value of 0.0057which is statistically significant.

This agrees with the findings of Biplab and Inder (2021) thatinflows of foreign direct

investment facilitatehigher output in theeconomy. Duc, Anh and Chi (2020) found along-

term co-integrationbetween financial integrationand economic growth. Derrick, Caroline,

Rosle and Vivin (2011) study also found thatforeign direct investment to have apositive

effect on economicgrowth. Kanu (2015) also found thatforeign capital inflows has significant

impact economicgrowth. Chigbu, Ubah and Chigbu (2015) found thatcapital inflows have

significant impacton the economic growth. Ekwe and Inyiama (2014) also found thatforeign

capital inflow in the samevein had a positiveand significant effecton the GDP. This also

agrees with thefindings of Kouki andRezgui (2017) that long-term positiverelationship exist

between economicgrowth and financial integration

This disagrees with the findings of DramaBédi (2016) that foreign direct investment (FDI) is not animportant determinantof economic growth. Also, Maliwa andNyambe (2015) indicate that foreign direct investmentdoes not granger cause economic growth. This alsodisagrees

with the findings of Egbetunde andAkinlo (2014) that financial integration had anegative and significant impact oneconomic growth in SSA.

## Foreign Portfolio Investment Inflow and Economic Growth in Nigeria

The study foreign portfolio investment inflow has significant effect on economic growth in

Nigeria. This Implies that foreign portfolio inflows contributessignificantly on economic

growthin Nigeria within the period underreview. The inflowof foreign capital is a factor

likely tolead to a transfer oftechnology, specializationin production, allocationof capital and

consequentlystimulates economic growth. This issupported by t-statisticsvalue of 6.571888

and probabilityvalue of 0.0000 which is statistically significant.

This agrees with the findings ofMahajan and Verma (2015) that financialintegration affects

the growth of theeconomy positively. Similarly, Sethi (2013) found that there is thelong-run

equilibrium relationshipForeign Portfolio Investmentand economic growth. That is private

foreign capitalinflows have a positiveand direct impacton economic growth. Furthermore,

Wambugu (2018) found thatportfolio inflows contributepositively and significantlyto

economic growth. AlsoEzeanyeji and Ifeako (2019) results indicates thatforeign portfolio

investments havepositive significant impacton economic process in Nigeria. Iriobe, Obamuyi

and Abayomi (2018) also indicates thatforeign portfolio equity investmentfeatures a

significant positiveinfluence on the Nigerianstock exchange performance. Baghebo and Apere (2014) study indicatesthat foreign portfolioinvestment have positive long-run relationship with real gross domesticproduct in Nigeria within the periodof study. Ibrahim and Akinbobola (2017) studyalso indicates that in theshort ruin and long-runforeign portfolio

investment had positiveand significant effect on theeconomic growth. This also agrees with the findings of Abdulaziz (2020) thatfinancial integration has apositive impact oneconomic growth andstatistically significant. This also tally with thefindings of Koukiand Rezgui

(2017) that stockof accumulated capitalflows with regard toGDP has positive and significant

impact on economicgrowth. This disagreeswith the findingsof Arash and Aidin (2016) that

financial integration has negative effect on growth in the countries studied.

## Trade Openness and Economic Growth in Nigeria

Trade openness was foundto have significant effect oneconomic growth in Nigeria. This implies that opening up theeconomic to encouragefinancial integration enhancedeconomic growth in Nigeria within theperiod under review. The opening ofemerging markets attracted foreign investors andincreased the flowsof capital towards them. That is theliberalization of the emerging marketsincreasedthe numberof foreign investors, which lead to th increase of the financial markets’liquidity, the reduction of the costof debt, the improvementof profitability of certainprojects and the increaseof economic activity. This issupportedby t- statistics value of 2.777748 and probability value of 0.0100 which is statistically significant.

This agrees with the findings of Biplab and Inder (2021) that financialopenness significantly boostsproductivity. Similarly, Wafa and Saoussen (2015) found that tradeopenness explain the degree of financialintegration and has significant effect oneconomic growth. Abdulaziz (2020) study also indicates that tradeopenness is statistically significant inexplaining economic growth. Ahmed (2011) study indicates thatfinancial openness had enhanced economic growth throughindirect channels such aspromoting domestic financial market

development andproducts. Furthermore, Keho andGrace Wang (2017) result indicates that trade openness promoteseconomic growth in theeconomy. Ekwe and Inyiama (2014) also found that theopenness of the economyhad a positive and significanteffect on the GDP.

On the contrary, the findings of Kouki and Rezgui (2017) indicates that therelationship between themacroeconomic policy of tradeopenness and economicgrowth is positive but not significant. SimilarlyAdu (2013) results indicates that tradeopenness has significant negative relationship with economicgrowth. Also, Ezeaku, Anyalechi, Onwumere and Okereke (2018) study indicates trade openness hasnegative and insignificantinfluence on economic growth.

## Foreign Remittances and Economic Growth in Nigeria

The study further found foreign remittances have no significant effecton economic growth in

Nigeria. This implies thatremittances from the Nigerians livingabroad had nosignificant

effect on economic growth inNigeria within the periodunder review. This is supportedby t-

statistics value of -1.348524and probability value of 0.1891 which isstatistically

insignificant.

This agrees with the findings ofNkoro and Uko (2013) found thatremittances has a

significant negative on real grossdomestic product. This disagrees with thefindings of Orji,

Uche and Ilori (2014) that remittances significantlycontributes to economic growth

## Official Development Assistance and Economic Growth in Nigeria

The result indicates that official developmentassistance has significant effect oneconomic growth in Nigeria. This implies that official development assistance has significantinfluence

on economic growth in Nigeria within theperiod under review. This is supported by t- statistics value of 5.087938 and probabilityvalue of 0.0000 which is statisticallysignificant.

This agrees with the findings of Arash and Aidin (2016) that financialintegration has positive

effect oneconomic growth. Similarly, Nkoro and Uko (2013) found that foreignaid had

significan positive impact on economicgrowth. Orji, Uche and Ilori (2014) foundthat official

development assistance (ODA) positivelycontributed more to output growth. Okafor,

Ugwuegbe and Ezeaku (2016) study found thatforeign capital inflow causes GDP to increase

positively.

# CHAPTER SIX

**SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS**

## Summary of Findings

The study examined the effect of financial integration on economic growth in Nigeria using

time series data from 1986 to 2020. The data generated were subjected to empirical analysis

and the following became evident. The result of the descriptive statistics indicates that all the

variables (real gross domestic product, foreign direct investment, foreign portfolio

investment, trade openness, remittances, official development assistance, credit to private

sector as a percentage of GDP, interest rate and exchange rate) used in the study were

normally distributed. The result of the unit root test indicates that all the variables (real gross

domestic product, foreign direct investment, foreign portfolio investment, trade openness,

remittances, official development assistance, credit to private sector as a percentage of GDP,

interest rate and exchange rate) were stationary at first difference. The result of the co

integration test indicates that there is a long run relationship between the variables used in

the study. The result of the estimation technique indicates the following:

1. Foreign direct investment inflow has significant effect on economic growth in Nigeria.
2. Foreign portfolio investment inflow has significant effect on economic growth in Nigeria.
3. Trade openness has significant effect on economic growth in Nigeria.
4. Financial deepening has significant effect on economic growth in Nigeria.
5. Foreign remittances have no significant effect on economic growth in Nigeria.
6. Official development assistance has significant effect on economic growth in Nigeria.

## Conclusion

The study examined the effect of financial integration on economic growth in Nigeria using time series data from 1986 to 2020. The results showed that foreign direct investment

inflows, foreign portfolio investment inflows, financial deepening, official development

assistance and trade openness have significant positive effect on economic growth in Nigeria

within the period under review. Furthermore, foreign remittances were found to have

insignificant negative effect on economic growth in Nigeria. Based on the foregoing, the

study concludes that financial integration has significant positive impact on economic growth

in Nigeria within the period under review

Therefore, economic growth is given a very good promotion byprioritizing financial

integration. Openingfinancial marketsand financial institutions to foreignersandletting

domestic market players to investoverseas are actions of financialintegration processes. This

is donethrough removing obstacles to cross-borderflow of capital and financialservices. One

of the steps towards an integrated financial market is, the removal of barriers which result in

mistreatment of foreign capital andforeign financial institutions. That is why, in thelast few

decades, several industrializedand developing countries have liberalized theirfinancial

system. Toliberalize their financialsystem, they eased or lifted bank interest rateceilings,

reduced entry barriers, lowered reserverequirements, reduced involvementof government in

credit allocation decisions,privatized banks and insurancecompanies, developed stock market, and promoted entry of foreign financial intermediaries.

## Recommendations

The study recommends the following:

1. Government needs to put inplace appropriate macroeconomicpolicies and institutions that will drive the benefitsof financial integration in order to sustaineconomic growth and development. In order toensure effective financial integration, thegovernment and monetary authority should usemonetary instruments that will stabilizethe macroeconomic environment. This will create anenvironment conducive to financialdeepening and savings mobilizations.
2. In order to consolidate thegains of the reform programme, governmentshould avoid drastic policy reversal butrather, it should concentrateefforts in fine-tuning theexisting policy measureswhich will not only compelprudence on the part of majoroperators in the financialmarket but also will stimulate saving behaviour of all economicagents. This will go a long way atenhancing fund’s mobilizationin the country.
3. Government shouldestablish an incentiveframework and a business climatesupportive of entrepreneurshipand private sector developmentand fostering an all-out nationaltraining effort in managerialand technical skills in financialoperations and the use ofproper accounting procedures, andadequate auditing and financialinformation dissemination.
4. Government should initiate policies which willpromote the long-rumgrowth of the capital market and thereforethe economy at large toensure inflow of foreignportfolio investment. Hence, regulatory authoritiesshould deepen the equitystocks of the market andencourage more firms to get listed on theNigerian Stock Exchange with a view tochannelling more

investments into the economythrough foreign portfolioinvestment thereby fast-tracking industrialisation and economic development.

1. The government should put in place measures that stimulateinvestments with fairlending rates so as to deepen the financialsystem which in turn promotes economicgrowth.

## Contribution to Knowledge

The contributions of the study to knowledge are enumerated below:

1. This study established that foreign direct investment inflows, foreign portfolio investment inflows, official development assistance and trade openness has significant positive effect on economic growth while foreign remittances has insignificant negative effect on economic growth in Nigeria within the period under review.
2. The study extended its scope beyond those of earlier studies by modifying models of what were used earlier through the inclusion of remittances and official development assistance which was not captured by most scholars in previous studies.
3. It filled knowledge gap by extending the period captured to the year 2020 (i.e. the most recent available data at the time of the analysis within the Nigerian context).
4. The existing literature was updated in terms of variables used in the study. Practically, this study provides empirical evidence for further research work and policy formulations and implementation.

## Suggestion for Further Studies

The following were recommended for further studies

1. A cross country analysis should be carried out on the effect of financial integration on economic development in West African Region.
2. Also the intermediation role of strong institution and political stability should be examined in relation to effect of financial integration on economic growth in Nigeria.
3. Other financial integration variables not included in the present study should be incorporated in future studies.

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**APPENDIX I**

**LOG DATA FOR THE ANALYSIS**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | LTOP | LRGDP | LREM | LODA | LINT | LFPI | LFDI | LEXCH | LCPS\_GDP |
| 1986 | 3.975936 | 9.631547 | 2.587012 | 4.908233 | 2.351375 | -0.116534 | 3.770459 | 0.703098 | 2.040694 |
| 1987 | 3.811097 | 9.633248 | 2.436241 | 4.887865 | 2.862201 | 0.703098 | 4.298645 | 1.391282 | 2.153685 |
| 1988 | 4.058717 | 9.693715 | 2.352327 | 4.869763 | 2.803360 | 1.391282 | 5.502074 | 1.512927 | 2.158500 |
| 1989 | 4.044804 | 9.758154 | 2.420368 | 4.854137 | 3.288402 | 1.512927 | 5.146331 | 2.000128 | 1.991775 |
| 1990 | 4.030695 | 9.868152 | 2.711378 | 4.770430 | 3.238678 | 2.000128 | 4.933034 | 2.084429 | 1.914301 |
| 1991 | 3.975936 | 9.862617 | 2.533697 | 4.887035 | 2.996232 | 2.084429 | 6.149750 | 2.293544 | 1.947078 |
| 1992 | 3.811097 | 9.884314 | 3.233961 | 5.007831 | 3.394508 | 2.293544 | 6.539008 | 2.850707 | 1.858659 |
| 1993 | 4.058717 | 9.899881 | 3.317816 | 5.015026 | 3.586016 | 2.850707 | 4.973971 | 3.093313 | 2.313661 |
| 1994 | 4.279440 | 9.902443 | 3.986574 | 4.696381 | 3.044522 | 3.093313 | 5.692384 | 3.086030 | 2.092925 |
| 1995 | 4.228293 | 9.920993 | 4.586089 | 4.722775 | 3.004692 | 3.086030 | 3.100092 | 3.086030 | 1.758920 |
| 1996 | 4.415220 | 9.960714 | 4.615121 | 2.791165 | 2.982647 | 3.086030 | 4.329417 | 3.086030 | 1.764607 |
| 1997 | 4.577799 | 9.989165 | 5.249442 | 3.139833 | 2.605648 | 3.086030 | 4.712229 | 3.086030 | 1.967965 |
| 1998 | 4.412798 | 10.01381 | 5.261498 | 3.440418 | 2.906354 | 3.086030 | 4.705016 | 3.086030 | 1.991232 |
| 1999 | 4.460144 | 10.01902 | 5.307822 | 3.860730 | 3.059646 | 3.086030 | 4.390739 | 4.527425 | 2.062379 |
| 2000 | 4.325456 | 10.07274 | 6.131205 | 4.194190 | 2.889260 | 4.527425 | 4.530447 | 4.696381 | 2.016161 |
| 2001 | 4.051089 | 10.13728 | 6.260709 | 5.195177 | 2.906354 | 4.696381 | 4.753590 | 4.722775 | 2.228909 |
| 2002 | 4.127941 | 10.27359 | 6.367861 | 5.655292 | 3.212858 | 4.722775 | 4.885828 | 4.839451 | 2.090657 |
| 2003 | 4.133886 | 10.36437 | 6.139044 | 5.641552 | 3.030617 | 4.839451 | 5.416989 | 4.908233 | 2.090425 |
| 2004 | 4.134847 | 10.46369 | 6.855609 | 5.570632 | 2.953868 | 4.908233 | 5.554509 | 4.887865 | 2.059758 |
| 2005 | 4.108576 | 10.53143 | 2.604170 | 5.703782 | 2.887590 | 4.887865 | 5.514235 | 4.869763 | 2.073281 |
| 2006 | 4.174541 | 10.59652 | 3.170945 | 6.157614 | 2.848392 | 4.869763 | 5.833933 | 4.854137 | 2.020366 |
| 2007 | 4.312409 | 10.66715 | 3.490429 | 6.496021 | 2.829678 | 4.854137 | 6.606920 | 4.770430 | 2.358950 |
| 2008 | 4.319486 | 10.73667 | 3.700808 | 6.639745 | 2.716680 | 4.770430 | 7.402512 | 4.887035 | 2.984189 |
| 2009 | 4.231930 | 10.81690 | 3.812203 | 7.214725 | 2.910174 | 4.887035 | 7.604147 | 5.007831 | 3.124778 |
| 2010 | 4.252487 | 10.90801 | 4.246923 | 7.655627 | 2.867331 | 5.007831 | 7.707063 | 5.015026 | 2.942444 |
| 2011 | 4.285240 | 10.95973 | 4.924206 | 7.972500 | 2.773838 | 5.015026 | 7.999108 | 5.064302 | 2.712542 |
| 2012 | 4.267597 | 11.00093 | 5.198442 | 8.541085 | 2.820783 | 5.064302 | 8.162488 | 5.058346 | 2.907496 |
| 2013 | 4.282621 | 11.05436 | 5.661014 | 9.486585 | 2.816606 | 5.058346 | 8.148359 | 5.057900 | 2.882082 |
| 2014 | 4.287991 | 11.11571 | 5.947251 | 9.165657 | 2.806386 | 5.057900 | 8.274892 | 5.126105 | 2.922417 |
| 2015 | 4.301088 | 11.14221 | 6.097287 | 8.858056 | 2.824351 | 5.126105 | 8.020731 | 4.621339 | 2.977328 |
| 2016 | 4.301223 | 11.12625 | 6.582330 | 9.202127 | 2.825537 | 5.126105 | 7.778923 | 4.849605 | 3.020296 |
| 2017 | 4.312811 | 11.13446 | 6.810120 | 9.237498 | 2.865624 | 5.131259 | 7.778923 | 5.191066 | 2.972814 |
| 2018 | 4.287991 | 11.15353 | 5.661014 | 9.602443 | 2.961658 | 5.007831 | 7.999108 | 5.222893 | 2.864682 |
| 2019 | 4.301088 | 11.17588 | 5.947251 | 9.856260 | 2.742774 | 5.015026 | 8.162488 | 5.177448 | 2.869629 |
| 2020 | 4.301223 | 11.15646 | 6.097287 | 9.733594 | 2.511224 | 5.064302 | 8.148359 | 5.184645 | 2.935654 |

**E-VIEW OUTPUT**

**APPENDIX II**

**OF THE STATISTICAL ANALYSIS**

**DESCRIPTIVE STATISTICS**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **RGDP** | **FDI** | **FPI** | **ODA** | **REM** | **CPS\_GDP** | **TOP** | **INT** | **EXCH** |
| Mean | 38577.16 | 1209.514 | 89.75086 | 3340.269 | 238.5011 | 11.90285 | 68.07457 | 19.01571 | 94.12800 |
| Median | 31709.45 | 296.6000 | 117.9700 | 281.9000 | 137.5800 | 8.616549 | 71.35000 | 17.95000 | 117.9700 |
| Maximum | 71387.83 | 3924.100 | 169.2300 | 19077.40 | 949.1900 | 22.75484 | 97.30000 | 36.09000 | 185.4700 |
| Minimum | 15237.99 | 22.20000 | 0.890000 | 16.30000 | 10.51000 | 5.806165 | 45.20000 | 10.50000 | 2.020000 |
| Std. Dev. | 20479.94 | 1378.770 | 65.66546 | 5526.912 | 262.8775 | 5.596864 | 11.21954 | 4.828348 | 65.95810 |
| Skewness | 0.438965 | 0.747970 | -0.254086 | 1.594983 | 1.198360 | 0.562027 | 0.049038 | 1.561912 | -0.247025 |
| Kurtosis | 1.576438 | 1.862546 | 1.283418 | 4.208232 | 3.624333 | 1.576468 | 3.184479 | 6.351314 | 1.432800 |
| Jarque-Bera | 4.079382 | 5.150300 | 4.673804 | 16.96875 | 8.945495 | 4.797830 | 0.063658 | 30.60980 | 3.937795 |
| Probability | 0.130069 | 0.076142 | 0.096627 | 0.240207 | 0.311416 | 0.090816 | 0.968672 | 0.408725 | 0.139611 |
| Sum | 1350200. | 42333.00 | 3141.280 | 116909.4 | 8347.540 | 416.5997 | 2382.610 | 665.5500 | 3294.480 |
| Sum Sq. Dev. | 1.43E+10 | 64634257 | 146606.4 | 1.04E+09 | 2349557. | 1065.046 | 4279.858 | 792.6401 | 147916.0 |
| Observation s | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |

**UNIT ROOT RESULTS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: RGDP has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 4 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -2.316020 | | 0.1737 |
| Test critical values: | 1% level | -3.670170 | |  |
|  | 5% level | -2.963972 | |  |
|  | 10% level | -2.621007 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(RGDP) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:03 | | | | |
| Sample (adjusted): 1991 2020 | | | | |
| Included observations: 30 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| RGDP(-1) | -0.029673 | 0.012812 | -2.316020 | 0.0294 |
| D(RGDP(-1)) | 0.723378 | 0.189182 | 3.823708 | 0.0008 |
| D(RGDP(-2)) | -0.079894 | 0.235814 | -0.338799 | 0.7377 |
| D(RGDP(-3)) | -0.094841 | 0.234594 | -0.404278 | 0.6896 |
| D(RGDP(-4)) | 0.621892 | 0.205689 | 3.023456 | 0.0059 |
| C | 807.5572 | 463.9619 | 1.740568 | 0.0946 |
| R-squared | 0.631345 | Mean dependent var | | 1690.291 |
| Adjusted R-squared | 0.554542 | S.D. dependent var | | 1576.739 |
| S.E. of regression | 1052.358 | Akaike info criterion | | 16.93231 |
| Sum squared resid | 26578952 | Schwarz criterion |  | 17.21255 |
| Log likelihood | -247.9846 | Hannan-Quinn criter. | | 17.02196 |
| F-statistic | 8.220300 | Durbin-Watson stat | | 1.770783 |
| Prob(F-statistic) | 0.000123 |  | |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(RGDP) has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -4.146308 | | 0.0009 |
| Test critical values: | 1% level | -3.646342 | |  |
|  | 5% level | -2.954021 | |  |
|  | 10% level | -2.615817 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(RGDP,2) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:04 | | | | |
| Sample (adjusted): 1988 2020 | | | | |
| Included observations: 33 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(RGDP(-1)) | -0.301296 | 0.140379 | -2.146308 | 0.0098 |
| C | 470.2519 | 311.0659 | 1.511744 | 0.1407 |
| R-squared | 0.129376 | Mean dependent var | | -42.40606 |
| Adjusted R-squared | 0.101291 | S.D. dependent var | | 1207.528 |
| S.E. of regression | 1144.740 | Akaike info criterion | | 16.98243 |
| Sum squared resid | 40623287 | Schwarz criterion |  | 17.07313 |
| Log likelihood | -278.2102 | Hannan-Quinn criter. | | 17.01295 |
| F-statistic | 4.606639 | Durbin-Watson stat | | 1.733490 |
| Prob(F-statistic) | 0.039786 |  | |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: FDI has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 1 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -0.597874 | | 0.8578 |
| Test critical values: | 1% level | -3.646342 | |  |
|  | 5% level | -2.954021 | |  |
|  | 10% level | -2.615817 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(FDI) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:09 | | | | |
| Sample (adjusted): 1988 2020 | | | | |
| Included observations: 33 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| FDI(-1) | -0.029533 | 0.049397 | -0.597874 | 0.5544 |
| D(FDI(-1)) | 0.312864 | 0.181677 | 1.722086 | 0.0954 |
| C | 104.4641 | 84.22352 | 1.240320 | 0.2245 |
| R-squared | 0.090379 | Mean dependent var | | 102.5485 |
| Adjusted R-squared | 0.029738 | S.D. dependent var | | 367.3934 |
| S.E. of regression | 361.8894 | Akaike info criterion | | 14.70706 |
| Sum squared resid | 3928919. | Schwarz criterion |  | 14.84311 |
| Log likelihood | -239.6665 | Hannan-Quinn criter. | | 14.75284 |
| F-statistic | 1.490383 | Durbin-Watson stat | | 1.945207 |
| Prob(F-statistic) | 0.241495 |  | |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(FDI) has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -4.154537 | | 0.0027 |
| Test critical values: | 1% level | -3.646342 | |  |
|  | 5% level | -2.954021 | |  |
|  | 10% level | -2.615817 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(FDI,2) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:10 | | | | |
| Sample (adjusted): 1988 2020 | | | | |
| Included observations: 33 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(FDI(-1)) | -0.717381 | 0.172674 | -4.154537 | 0.0002 |
| C | 72.88638 | 64.92140 | 1.122687 | 0.2702 |
| R-squared | 0.357648 | Mean dependent var | | -2.406061 |
| Adjusted R-squared | 0.336927 | S.D. dependent var | | 439.7919 |
| S.E. of regression | 358.1193 | Akaike info criterion | | 14.65830 |
| Sum squared resid | 3975733. | Schwarz criterion |  | 14.74900 |
| Log likelihood | -239.8620 | Hannan-Quinn criter. | | 14.68882 |
| F-statistic | 17.26018 | Durbin-Watson stat | | 1.927429 |
| Prob(F-statistic) | 0.000237 |  | |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: FPI has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -0.917336 | | 0.7704 |
| Test critical values: | 1% level | -3.639407 | |  |
|  | 5% level | -2.951125 | |  |
|  | 10% level | -2.614300 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(FPI) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:10 | | | | |
| Sample (adjusted): 1987 2020 | | | | |
| Included observations: 34 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| FPI(-1) | -0.033429 | 0.036442 | -0.917336 | 0.3658 |
| C | 7.561765 | 3.969867 | 1.904791 | 0.0658 |
| R-squared | 0.025623 | Mean dependent var | | 4.628824 |
| Adjusted R-squared | -0.004826 | S.D. dependent var | | 13.68836 |
| S.E. of regression | 13.72135 | Akaike info criterion | | 8.132805 |
| Sum squared resid | 6024.811 | Schwarz criterion |  | 8.222591 |
| Log likelihood | -136.2577 | Hannan-Quinn criter. | | 8.163425 |
| F-statistic | 0.841505 | Durbin-Watson stat | | 1.706368 |
| Prob(F-statistic) | 0.365829 |  | |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(FPI) has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -4.840869 | | 0.0004 |
| Test critical values: | 1% level | -3.646342 | |  |
|  | 5% level | -2.954021 | |  |
|  | 10% level | -2.615817 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(FPI,2) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:11 | | | | |
| Sample (adjusted): 1988 2020 | | | | |
| Included observations: 33 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(FPI(-1)) | -0.860726 | 0.177804 | -4.840869 | 0.0000 |
| C | 4.102756 | 2.562424 | 1.601123 | 0.1195 |
| R-squared | 0.430503 | Mean dependent var | | 0.196364 |
| Adjusted R-squared | 0.412132 | S.D. dependent var | | 18.22168 |
| S.E. of regression | 13.97102 | Akaike info criterion | | 8.170539 |
| Sum squared resid | 6050.873 | Schwarz criterion |  | 8.261237 |
| Log likelihood | -132.8139 | Hannan-Quinn criter. | | 8.201056 |
| F-statistic | 23.43401 | Durbin-Watson stat | | 1.973164 |
| Prob(F-statistic) | 0.000034 |  | |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: TOP has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 3 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -3.236628 | | 0.0272 |
| Test critical values: | 1% level | -3.661661 | |  |
|  | 5% level | -2.960411 | |  |
|  | 10% level | -2.619160 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(TOP) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:11 | | | | |
| Sample (adjusted): 1990 2020 | | | | |
| Included observations: 31 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| TOP(-1) | -0.423197 | 0.130753 | -3.236628 | 0.0033 |
| D(TOP(-1)) | 0.276088 | 0.171834 | 1.606711 | 0.1202 |
| D(TOP(-2)) | 0.032477 | 0.158233 | 0.205247 | 0.8390 |
| D(TOP(-3)) | 0.436991 | 0.156262 | 2.796521 | 0.0096 |
| C | 29.45088 | 9.044007 | 3.256398 | 0.0031 |
| R-squared | 0.366198 | Mean dependent var | | 0.538387 |
| Adjusted R-squared | 0.268690 | S.D. dependent var | | 7.593081 |
| S.E. of regression | 6.493350 | Akaike info criterion | | 6.726124 |
| Sum squared resid | 1096.253 | Schwarz criterion |  | 6.957412 |
| Log likelihood | -99.25493 | Hannan-Quinn criter. | | 6.801518 |
| F-statistic | 3.755567 | Durbin-Watson stat | | 1.802391 |
| Prob(F-statistic) | 0.015341 |  | |  |

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| Null Hypothesis: D(TOP) has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 3 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -4.349859 | | 0.0013 |
| Test critical values: | 1% level | -3.670170 | |  |
|  | 5% level | -2.963972 | |  |
|  | 10% level | -2.621007 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(TOP,2) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:12 | | | | |
| Sample (adjusted): 1991 2020 | | | | |
| Included observations: 30 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(TOP(-1)) | -1.130311 | 0.337420 | -3.349859 | 0.0026 |
| D(TOP(-1),2) | 0.317971 | 0.307990 | 1.032405 | 0.3118 |
| D(TOP(-2),2) | 0.107690 | 0.238023 | 0.452434 | 0.6549 |
| D(TOP(-3),2) | 0.402098 | 0.169904 | 2.366621 | 0.0260 |
| C | 0.568863 | 1.312525 | 0.433411 | 0.6684 |
| R-squared | 0.634640 | Mean dependent var | | 0.027000 |
| Adjusted R-squared | 0.576182 | S.D. dependent var | | 10.85845 |
| S.E. of regression | 7.068992 | Akaike info criterion | | 6.900325 |
| Sum squared resid | 1249.266 | Schwarz criterion |  | 7.133857 |
| Log likelihood | -98.50487 | Hannan-Quinn criter. | | 6.975034 |
| F-statistic | 10.85639 | Durbin-Watson stat | | 1.831758 |
| Prob(F-statistic) | 0.000031 |  | |  |

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| Null Hypothesis: REM has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -2.748581 | | 0.0765 |
| Test critical values: | 1% level | -3.639407 | |  |
|  | 5% level | -2.951125 | |  |
|  | 10% level | -2.614300 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(REM) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:12 | | | | |
| Sample (adjusted): 1987 2020 | | | | |
| Included observations: 34 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| REM(-1) | -0.380143 | 0.138305 | -2.748581 | 0.0098 |
| C | 101.0467 | 48.27729 | 2.093049 | 0.0444 |
| R-squared | 0.190994 | Mean dependent var | | 12.68706 |
| Adjusted R-squared | 0.165712 | S.D. dependent var | | 229.9282 |
| S.E. of regression | 210.0149 | Akaike info criterion | | 13.58926 |
| Sum squared resid | 1411400. | Schwarz criterion |  | 13.67904 |
| Log likelihood | -229.0174 | Hannan-Quinn criter. | | 13.61988 |
| F-statistic | 7.554698 | Durbin-Watson stat | | 2.223099 |
| Prob(F-statistic) | 0.009755 |  | |  |

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| Null Hypothesis: D(REM) has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -7.879545 | | 0.0000 |
| Test critical values: | 1% level | -3.646342 | |  |
|  | 5% level | -2.954021 | |  |
|  | 10% level | -2.615817 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(REM,2) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:12 | | | | |
| Sample (adjusted): 1988 2020 | | | | |
| Included observations: 33 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(REM(-1)) | -1.334613 | 0.169377 | -7.879545 | 0.0000 |
| C | 16.87361 | 38.96276 | 0.433070 | 0.6680 |
| R-squared | 0.666979 | Mean dependent var | | 1.933636 |
| Adjusted R-squared | 0.656236 | S.D. dependent var | | 381.2957 |
| S.E. of regression | 223.5589 | Akaike info criterion | | 13.71592 |
| Sum squared resid | 1549335. | Schwarz criterion |  | 13.80662 |
| Log likelihood | -224.3127 | Hannan-Quinn criter. | | 13.74644 |
| F-statistic | 62.08722 | Durbin-Watson stat | | 2.075944 |
| Prob(F-statistic) | 0.000000 |  | |  |

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| Null Hypothesis: ODA has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | 0.360654 | | 0.9781 |
| Test critical values: | 1% level | -3.639407 | |  |
|  | 5% level | -2.951125 | |  |
|  | 10% level | -2.614300 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(ODA) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:13 | | | | |
| Sample (adjusted): 1987 2020 | | | | |
| Included observations: 34 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| ODA(-1) | 0.025348 | 0.070285 | 0.360654 | 0.7207 |
| C | 417.7644 | 407.7519 | 1.024555 | 0.3133 |
| R-squared | 0.004048 | Mean dependent var | | 492.3441 |
| Adjusted R-squared | -0.027075 | S.D. dependent var | | 2021.952 |
| S.E. of regression | 2049.141 | Akaike info criterion | | 18.14525 |
| Sum squared resid | 1.34E+08 | Schwarz criterion |  | 18.23504 |
| Log likelihood | -306.4693 | Hannan-Quinn criter. | | 18.17587 |
| F-statistic | 0.130071 | Durbin-Watson stat | | 2.054628 |
| Prob(F-statistic) | 0.720728 |  | |  |

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| Null Hypothesis: D(ODA) has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -5.567952 | | 0.0001 |
| Test critical values: | 1% level | -3.646342 | |  |
|  | 5% level | -2.954021 | |  |
|  | 10% level | -2.615817 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(ODA,2) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:13 | | | | |
| Sample (adjusted): 1988 2020 | | | | |
| Included observations: 33 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(ODA(-1)) | -1.027635 | 0.184562 | -5.567952 | 0.0000 |
| C | 523.2086 | 377.8377 | 1.384744 | 0.1760 |
| R-squared | 0.500017 | Mean dependent var | | -66.65364 |
| Adjusted R-squared | 0.483888 | S.D. dependent var | | 2900.089 |
| S.E. of regression | 2083.450 | Akaike info criterion | | 18.18013 |
| Sum squared resid | 1.35E+08 | Schwarz criterion |  | 18.27083 |
| Log likelihood | -297.9721 | Hannan-Quinn criter. | | 18.21065 |
| F-statistic | 31.00209 | Durbin-Watson stat | | 1.965382 |
| Prob(F-statistic) | 0.000004 |  | |  |

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| Null Hypothesis: INT has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -3.427332 | | 0.0868 |
| Test critical values: | 1% level | -3.639407 | |  |
|  | 5% level | -2.951125 | |  |
|  | 10% level | -2.614300 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(INT) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:16 | | | | |
| Sample (adjusted): 1987 2020 | | | | |
| Included observations: 34 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| INT(-1) | -0.517209 | 0.150907 | -3.427332 | 0.0017 |
| C | 9.990485 | 2.984307 | 3.347673 | 0.0021 |
| R-squared | 0.268515 | Mean dependent var | | 0.053529 |
| Adjusted R-squared | 0.245656 | S.D. dependent var | | 4.747192 |
| S.E. of regression | 4.123079 | Akaike info criterion | | 5.728100 |
| Sum squared resid | 543.9929 | Schwarz criterion |  | 5.817886 |
| Log likelihood | -95.37770 | Hannan-Quinn criter. | | 5.758719 |
| F-statistic | 11.74660 | Durbin-Watson stat | | 1.837051 |
| Prob(F-statistic) | 0.001694 |  | |  |

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| Null Hypothesis: D(INT) has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 7 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -4.586719 | | 0.0012 |
| Test critical values: | 1% level | -3.711457 | |  |
|  | 5% level | -2.981038 | |  |
|  | 10% level | -2.629906 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(INT,2) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:16 | | | | |
| Sample (adjusted): 1995 2020 | | | | |
| Included observations: 26 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(INT(-1)) | -3.389191 | 0.738914 | -4.586719 | 0.0003 |
| D(INT(-1),2) | 2.001562 | 0.591677 | 3.382865 | 0.0035 |
| D(INT(-2),2) | 1.621924 | 0.502625 | 3.226904 | 0.0050 |
| D(INT(-3),2) | 1.455415 | 0.408215 | 3.565315 | 0.0024 |
| D(INT(-4),2) | 1.056634 | 0.349959 | 3.019308 | 0.0077 |
| D(INT(-5),2) | 0.753572 | 0.265000 | 2.843671 | 0.0112 |
| D(INT(-6),2) | 0.473028 | 0.164072 | 2.883055 | 0.0103 |
| D(INT(-7),2) | 0.310281 | 0.103160 | 3.007759 | 0.0079 |
| C | -0.986562 | 0.453839 | -2.173815 | 0.0441 |
| R-squared | 0.897618 | Mean dependent var | | 0.456923 |
| Adjusted R-squared | 0.849438 | S.D. dependent var | | 5.110423 |
| S.E. of regression | 1.982965 | Akaike info criterion | | 4.474488 |
| Sum squared resid | 66.84653 | Schwarz criterion |  | 4.909983 |
| Log likelihood | -49.16834 | Hannan-Quinn criter. | | 4.599894 |
| F-statistic | 18.63053 | Durbin-Watson stat | | 2.003598 |
| Prob(F-statistic) | 0.000001 |  | |  |

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| Null Hypothesis: EXCH has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -0.981612 | | 0.7486 |
| Test critical values: | 1% level | -3.639407 | |  |
|  | 5% level | -2.951125 | |  |
|  | 10% level | -2.614300 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(EXCH) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:17 | | | | |
| Sample (adjusted): 1987 2020 | | | | |
| Included observations: 34 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| EXCH(-1) | -0.052950 | 0.053942 | -0.981612 | 0.3337 |
| C | 10.04359 | 6.039110 | 1.663091 | 0.1061 |
| R-squared | 0.029231 | Mean dependent var | | 5.190882 |
| Adjusted R-squared | -0.001105 | S.D. dependent var | | 20.21442 |
| S.E. of regression | 20.22558 | Akaike info criterion | | 8.908796 |
| Sum squared resid | 13090.38 | Schwarz criterion |  | 8.998582 |
| Log likelihood | -149.4495 | Hannan-Quinn criter. | | 8.939416 |
| F-statistic | 0.963563 | Durbin-Watson stat | | 1.982897 |
| Prob(F-statistic) | 0.333655 |  | |  |

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| Null Hypothesis: D(EXCH) has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -5.654742 | | 0.0000 |
| Test critical values: | 1% level | -3.646342 | |  |
|  | 5% level | -2.954021 | |  |
|  | 10% level | -2.615817 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(EXCH,2) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:17 | | | | |
| Sample (adjusted): 1988 2020 | | | | |
| Included observations: 33 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(EXCH(-1)) | -1.015695 | 0.179618 | -5.654742 | 0.0000 |
| C | 5.370908 | 3.751980 | 1.431486 | 0.1623 |
| R-squared | 0.507750 | Mean dependent var | | -0.021818 |
| Adjusted R-squared | 0.491871 | S.D. dependent var | | 29.24339 |
| S.E. of regression | 20.84562 | Akaike info criterion | | 8.970857 |
| Sum squared resid | 13470.74 | Schwarz criterion |  | 9.061554 |
| Log likelihood | -146.0191 | Hannan-Quinn criter. | | 9.001374 |
| F-statistic | 31.97611 | Durbin-Watson stat | | 2.008742 |
| Prob(F-statistic) | 0.000003 |  | |  |

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| Null Hypothesis: CPS\_GDP has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 2 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -0.683402 | | 0.8370 |
| Test critical values: | 1% level | -3.653730 | |  |
|  | 5% level | -2.957110 | |  |
|  | 10% level | -2.617434 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(CPS\_GDP) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:18 | | | | |
| Sample (adjusted): 1989 2020 | | | | |
| Included observations: 32 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| CPS\_GDP(-1) | -0.052564 | 0.076915 | -0.683402 | 0.5000 |
| D(CPS\_GDP(-1)) | 0.303319 | 0.173858 | 1.744638 | 0.0920 |
| D(CPS\_GDP(-2)) | -0.383191 | 0.178160 | -2.150818 | 0.0403 |
| C | 0.977053 | 0.977921 | 0.999112 | 0.3263 |
| R-squared | 0.219941 | Mean dependent var | | 0.317990 |
| Adjusted R-squared | 0.136363 | S.D. dependent var | | 2.415569 |
| S.E. of regression | 2.244838 | Akaike info criterion | | 4.571612 |
| Sum squared resid | 141.1003 | Schwarz criterion |  | 4.754829 |
| Log likelihood | -69.14580 | Hannan-Quinn criter. | | 4.632344 |
| F-statistic | 2.631574 | Durbin-Watson stat | | 2.065440 |
| Prob(F-statistic) | 0.069557 |  | |  |

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| Null Hypothesis: D(CPS\_GDP) has a unit root | | | | |
| Exogenous: Constant |  |  |  |  |
| Lag Length: 1 (Automatic - based on SIC, maxlag=8) | | | | |
|  |  | t-Statistic | | Prob.\* |
| Augmented Dickey-Fuller test statistic | | -5.317146 | | 0.0001 |
| Test critical values: | 1% level | -3.653730 | |  |
|  | 5% level | -2.957110 | |  |
|  | 10% level | -2.617434 | |  |
| \*MacKinnon (1996) one-sided p-values. | | | | |
| Augmented Dickey-Fuller Test Equation | | | | |
| Dependent Variable: D(CPS\_GDP,2) | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 06:18 | | | | |
| Sample (adjusted): 1989 2020 | | | | |
| Included observations: 32 after adjustments | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| D(CPS\_GDP(-1)) | -1.138094 | 0.214042 | -5.317146 | 0.0000 |
| D(CPS\_GDP(-1),2) | 0.418602 | 0.168885 | 2.478619 | 0.0193 |
| C | 0.367794 | 0.398214 | 0.923609 | 0.3633 |
| R-squared | 0.504983 | Mean dependent var | | 0.036305 |
| Adjusted R-squared | 0.470844 | S.D. dependent var | | 3.057493 |
| S.E. of regression | 2.224115 | Akaike info criterion | | 4.525655 |
| Sum squared resid | 143.4539 | Schwarz criterion |  | 4.663067 |
| Log likelihood | -69.41048 | Hannan-Quinn criter. | | 4.571203 |
| F-statistic | 14.79195 | Durbin-Watson stat | | 2.098078 |
| Prob(F-statistic) | 0.000037 |  | |  |

**COINTEGRATION RESULT**

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| Date: 10/11/21 Time: 06:21 | | | | |
| Sample (adjusted): 1988 2020 | | | | |
| Included observations: 33 after adjustments | | | | |
| Trend assumption: Linear deterministic trend | | | | |
| Series: RGDP FDI FPI TOP REM ODA CPS\_GDP INT EXCH | | | | |
| Lags interval (in first differences): 1 to 1 | | | | |
| Unrestricted Cointegration Rank Test (Trace) | | | | |
| Hypothesized |  | Trace | 0.05 |  |
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.\*\* |
| None \* | 0.936456 | 328.3464 | 197.3709 | 0.0000 |
| At most 1 \* | 0.883467 | 237.3978 | 159.5297 | 0.0000 |
| At most 2 \* | 0.809735 | 166.4616 | 125.6154 | 0.0000 |
| At most 3 \* | 0.648905 | 111.7034 | 95.75366 | 0.0026 |
| At most 4 \* | 0.632945 | 77.16236 | 69.81889 | 0.0115 |
| At most 5 | 0.459277 | 44.08830 | 47.85613 | 0.1081 |
| At most 6 | 0.375165 | 23.79833 | 29.79707 | 0.2091 |
| At most 7 | 0.221669 | 8.279514 | 15.49471 | 0.4360 |
| At most 8 | 0.000291 | 0.009592 | 3.841466 | 0.9217 |
| Trace test indicates 5 cointegrating eqn(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 |  | Max-Eigen | 0.05 |  |
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.\*\* |
| None \* | 0.936456 | 90.94867 | 58.43354 | 0.0000 |
| At most 1 \* | 0.883467 | 70.93620 | 52.36261 | 0.0003 |
| At most 2 \* | 0.809735 | 54.75813 | 46.23142 | 0.0049 |
| At most 3 | 0.648905 | 34.54109 | 40.07757 | 0.1843 |
| At most 4 | 0.632945 | 33.07406 | 33.87687 | 0.0621 |
| At most 5 | 0.459277 | 20.28997 | 27.58434 | 0.3214 |
| At most 6 | 0.375165 | 15.51882 | 21.13162 | 0.2542 |
| At most 7 | 0.221669 | 8.269922 | 14.26460 | 0.3519 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| At most 8 | 0.000291 | 0.009592 | 3.841466 | 0.9217 |  |  |  |  |  |
| Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level | | | | | | | | | |
| \* denotes rejection of the hypothesis at the 0.05 level | | | | | | | | | |
| \*\*MacKinnon-Haug-Michelis (1999) p-values | | | | | | | | | |
| Unrestricted Cointegrating Coefficients (normalized by b'\*S11\*b=I): | | | | | | | | | |
| RGDP | FDI | FPI | TOP | REM | ODA | CPS\_GDP | INT | EXCH |  |
| -6.75E-06 | 7.41E-05 | -0.070018 | -0.025721 | 0.000418 | -0.000486 | 0.226794 | -0.095825 | 0.085649 |  |
| -0.000259 | -0.000445 | 0.154058 | 0.081797 | -0.002201 | 0.000398 | 0.193614 | 0.102473 | -0.109317 |  |
| 0.000378 | -0.000542 | -0.059001 | -0.017105 | 0.003677 | -0.000561 | -0.383821 | 0.003112 | 0.013310 |  |
| 7.30E-05 | -8.85E-05 | -0.030772 | 0.011279 | 0.006832 | -0.000243 | 0.290238 | 0.040645 | -0.013708 |  |
| -0.000390 | 0.003127 | 0.071994 | 0.037246 | -0.001060 | 6.10E-05 | 0.044007 | 0.007283 | 0.001525 |  |
| 0.000201 | -2.36E-05 | -0.040051 | -0.126803 | 0.002353 | -0.000231 | -0.168370 | -0.316928 | -0.004799 |  |
| 8.86E-05 | -0.000800 | 0.014014 | 0.015042 | -0.004967 | 1.34E-05 | 0.080631 | 0.044024 | -0.014729 |  |
| -3.63E-05 | -0.000633 | 0.016818 | -0.055404 | -0.001009 | 5.95E-05 | 0.146563 | 0.167544 | 0.010458 |  |
| -0.000270 | -0.000938 | 0.040147 | 0.040984 | -0.002728 | 0.000480 | 0.366267 | -0.080232 | 0.025158 |  |
| Unrestricted Adjustment Coefficients (alpha): | | | | | | | | | |
| D(RGDP) | 458.6637 | 470.0692 | -27.40088 | -141.2739 | 253.4817 | 132.0173 | -81.96345 | 65.43920 | -4.837223 |
| D(FDI) | 107.9034 | 89.39537 | 73.09681 | -21.27656 | -149.2721 | 34.93382 | 68.19307 | 27.11765 | -1.354773 |
| D(FPI) | 3.338674 | -6.247899 | -1.750843 | -2.121070 | 1.479592 | -2.903031 | -0.084799 | -2.889701 | 0.014390 |
| D(TOP) | 0.433254 | 0.940969 | -1.032477 | -1.659610 | 0.511105 | -0.321933 | 0.496067 | 2.042436 | 0.045685 |
| D(REM) | 0.149852 | -10.10190 | -60.49130 | -48.69335 | 69.20110 | -39.08437 | 77.40421 | -38.25035 | -0.186608 |
| D(ODA) | 481.7025 | -125.9639 | 1058.469 | 820.0978 | 503.2770 | 166.3984 | 351.8389 | 254.3021 | -4.563550 |
| D(CPS\_GDP) | -0.475169 | 0.319251 | 1.050649 | -1.175773 | -0.162642 | -0.069599 | -0.011128 | -0.247965 | -0.001777 |
| D(INT) | 0.368497 | 1.048098 | -0.323427 | 0.249444 | 0.667968 | 1.838900 | -0.277342 | -0.885937 | 0.007128 |
| D(EXCH) | 5.888570 | 6.539228 | 4.378392 | 3.222453 | -3.571271 | -2.439717 | 2.527624 | -3.484372 | 0.083339 |
| 1 Cointegrating Equation(s): | | Log likelihood | -1476.594 |  |  |  |  |  |  |
| Normalized cointegrating coefficients (standard error in parentheses) | | | |  |  |  |  |  |  |
| RGDP | FDI | FPI | TOP | REM | ODA | CPS\_GDP | INT | EXCH |  |
| 1.000000 | -10.98098 | 10380.01 | 3813.078 | -61.91670 | 72.06939 | -33621.83 | 14205.95 | -12697.30 |  |
|  | (25.5986) | (1076.32) | (1132.53) | (72.4509) | (5.73609) | (4503.11) | (3174.34) | (1154.73) |  |
| Adjustment coefficients (standard error in parentheses) | | | |  |  |  |  |  |  |

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| D(RGDP) | -0.003094 |  |  |  |  |  |  |  |
|  | (0.00107) |  |  |  |  |  |  |  |
| D(FDI) | -0.000728 |  |  |  |  |  |  |  |
|  | (0.00040) |  |  |  |  |  |  |  |
| D(FPI) | -2.25E-05 |  |  |  |  |  |  |  |
|  | (1.5E-05) |  |  |  |  |  |  |  |
| D(TOP) | -2.92E-06 |  |  |  |  |  |  |  |
|  | (8.4E-06) |  |  |  |  |  |  |  |
| D(REM) | -1.01E-06 |  |  |  |  |  |  |  |
|  | (0.00029) |  |  |  |  |  |  |  |
| D(ODA) | -0.003249 |  |  |  |  |  |  |  |
|  | (0.00273) |  |  |  |  |  |  |  |
| D(CPS\_GDP) | 3.21E-06 |  |  |  |  |  |  |  |
|  | (2.9E-06) |  |  |  |  |  |  |  |
| D(INT) | -2.49E-06 |  |  |  |  |  |  |  |
|  | (5.3E-06) |  |  |  |  |  |  |  |
| D(EXCH) | -3.97E-05 |  |  |  |  |  |  |  |
|  | (2.1E-05) |  |  |  |  |  |  |  |
| 2 Cointegrating Equation(s): | | Log likelihood | -1441.126 |  |  |  |  |  |
| Normalized cointegrating coefficients (standard error in parentheses) | | | | | | | | |
| RGDP | FDI | FPI | TOP | REM | ODA | CPS\_GDP | INT | EXCH |
| 1.000000 | 0.000000 | 889.9897 | 242.8681 | -1.031252 | 8.420047 | -5192.987 | 1579.489 | -1352.626 |
|  |  | (142.343) | (153.282) | (9.27623) | (0.60854) | (510.134) | (431.009) | (157.246) |
| 0.000000 | 1.000000 | -864.2236 | -325.1267 | 5.544628 | -5.796327 | 2588.917 | -1149.848 | 1033.121 |
|  |  | (80.7932) | (87.0018) | (5.26512) | (0.34541) | (289.548) | (244.638) | (89.2518) |
| Adjustment coefficients (standard error in parentheses) | | | |  |  |  |  |  |
| D(RGDP) | -0.124964 | -0.175325 | |  |  |  |  |  |
|  | (0.03187) | (0.05547) | |  |  |  |  |  |
| D(FDI) | -0.023904 | -0.031811 | |  |  |  |  |  |
|  | (0.01453) | (0.02528) | |  |  |  |  |  |
| D(FPI) | 0.001597 | 0.003029 | |  |  |  |  |  |
|  | (0.00048) | (0.00084) | |  |  |  |  |  |
| D(TOP) | -0.000247 | -0.000387 | |  |  |  |  |  |
|  | (0.00032) | (0.00055) | |  |  |  |  |  |
| D(REM) | 0.002618 | 0.004509 | |  |  |  |  |  |
|  | (0.01130) | (0.01967) | |  |  |  |  |  |
| D(ODA) | 0.029408 | 0.091766 | |  |  |  |  |  |

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|  | (0.10479) | (0.18238) |  |  |  |  |  |  |
| D(CPS\_GDP) | -7.96E-05 | -0.000177 |  |  |  |  |  |  |
|  | (0.00011) | (0.00019) |  |  |  |  |  |  |
| D(INT) | -0.000274 | -0.000439 |  |  |  |  |  |  |
|  | (0.00019) | (0.00034) |  |  |  |  |  |  |
| D(EXCH) | -0.001735 | -0.002475 |  |  |  |  |  |  |
|  | (0.00073) | (0.00128) |  |  |  |  |  |  |
| 3 Cointegrating Equation(s): | | Log likelihood | -1413.747 |  |  |  |  |  |
| Normalized cointegrating coefficients (standard error in parentheses) | | | | | | | | |
| RGDP | FDI | FPI | TOP | REM | ODA | CPS\_GDP | INT | EXCH |
| 1.000000 | 0.000000 | 0.000000 | -50.91245 | 6.258042 | 1.326852 | -2121.241 | 325.6093 | -235.3220 |
|  |  |  | (47.3486) | (2.99413) | (0.17431) | (142.162) | (133.609) | (18.9955) |
| 0.000000 | 1.000000 | 0.000000 | -39.85141 | -1.533633 | 1.091513 | -393.8989 | 67.73025 | -51.83596 |
|  |  |  | (24.4846) | (1.54831) | (0.09014) | (73.5139) | (69.0911) | (9.82287) |
| 0.000000 | 0.000000 | 1.000000 | 0.330094 | -0.008190 | 0.007970 | -3.451440 | 1.408870 | -1.255412 |
|  |  |  | (0.11415) | (0.00722) | (0.00042) | (0.34272) | (0.32210) | (0.04579) |
| Adjustment coefficients (standard error in parentheses) | | | |  |  |  |  |  |
| D(RGDP) | -0.135309 | -0.160478 | 41.92001 |  |  |  |  |  |
|  | (0.05623) | (0.08657) | (22.0006) |  |  |  |  |  |
| D(FDI) | 0.003694 | -0.071418 | 1.904099 |  |  |  |  |  |
|  | (0.02464) | (0.03794) | (9.64234) |  |  |  |  |  |
| D(FPI) | 0.000936 | 0.003978 | -1.093001 |  |  |  |  |  |
|  | (0.00084) | (0.00129) | (0.32817) |  |  |  |  |  |
| D(TOP) | -0.000637 | 0.000173 | 0.175546 |  |  |  |  |  |
|  | (0.00055) | (0.00085) | (0.21587) |  |  |  |  |  |
| D(REM) | -0.020221 | 0.037286 | 2.002309 |  |  |  |  |  |
|  | (0.01906) | (0.02935) | (7.45890) |  |  |  |  |  |
| D(ODA) | 0.429043 | -0.481763 | -115.5846 |  |  |  |  |  |
|  | (0.15352) | (0.23636) | (60.0658) |  |  |  |  |  |
| D(CPS\_GDP) | 0.000317 | -0.000747 | 0.020463 |  |  |  |  |  |
|  | (0.00016) | (0.00025) | (0.06347) |  |  |  |  |  |
| D(INT) | -0.000396 | -0.000264 | 0.154749 |  |  |  |  |  |
|  | (0.00034) | (0.00053) | (0.13380) |  |  |  |  |  |
| D(EXCH) | -8.20E-05 | -0.004848 | 0.336784 |  |  |  |  |  |
|  | (0.00122) | (0.00189) | (0.47922) |  |  |  |  |  |

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| 4 Cointegrating Equation(s): | | Log likelihood | -1396.476 |  |  |  |  |  |
| Normalized cointegrating coefficients (standard error in parentheses) | | | | | | | | |
| RGDP | FDI | FPI | TOP | REM | ODA | CPS\_GDP | INT | EXCH |
| 1.000000 | 0.000000 | 0.000000 | 0.000000 | 20.35311 | 1.331783 | -1405.386 | 481.4998 | -328.8889 |
|  |  |  |  | (4.29767) | (0.24972) | (204.463) | (169.946) | (27.2745) |
| 0.000000 | 1.000000 | 0.000000 | 0.000000 | 9.499194 | 1.095372 | 166.4321 | 189.7526 | -125.0749 |
|  |  |  |  | (2.94901) | (0.17136) | (140.300) | (116.615) | (18.7155) |
| 0.000000 | 0.000000 | 1.000000 | 0.000000 | -0.099577 | 0.007938 | -8.092734 | 0.398143 | -0.648765 |
|  |  |  |  | (0.01975) | (0.00115) | (0.93960) | (0.78098) | (0.12534) |
| 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.276849 | 9.68E-05 | 14.06051 | 3.061934 | -1.837800 |
|  |  |  |  | (0.05822) | (0.00338) | (2.76981) | (2.30222) | (0.36948) |
| Adjustment coefficients (standard error in parentheses) | | | | | | | | |
| D(RGDP) | -0.145627 | -0.147968 | 46.26730 | 25.52838 |  |  |  |  |
|  | (0.05520) | (0.08459) | (21.6403) | (10.4919) |  |  |  |  |
| D(FDI) | 0.002140 | -0.069534 | 2.558822 | 3.046608 |  |  |  |  |
|  | (0.02487) | (0.03811) | (9.74862) | (4.72642) |  |  |  |  |
| D(FPI) | 0.000781 | 0.004166 | -1.027731 | -0.590907 |  |  |  |  |
|  | (0.00082) | (0.00126) | (0.32266) | (0.15643) |  |  |  |  |
| D(TOP) | -0.000758 | 0.000320 | 0.226616 | 0.064767 |  |  |  |  |
|  | (0.00053) | (0.00082) | (0.20936) | (0.10150) |  |  |  |  |
| D(REM) | -0.023777 | 0.041598 | 3.500703 | -0.344637 |  |  |  |  |
|  | (0.01869) | (0.02865) | (7.32885) | (3.55324) |  |  |  |  |
| D(ODA) | 0.488936 | -0.554381 | -140.8207 | -31.54901 |  |  |  |  |
|  | (0.13263) | (0.20324) | (51.9949) | (25.2087) |  |  |  |  |
| D(CPS\_GDP) | 0.000231 | -0.000643 | 0.056644 | 0.007103 |  |  |  |  |
|  | (0.00012) | (0.00018) | (0.04549) | (0.02206) |  |  |  |  |
| D(INT) | -0.000378 | -0.000286 | 0.147073 | 0.084599 |  |  |  |  |
|  | (0.00035) | (0.00053) | (0.13541) | (0.06565) |  |  |  |  |
| D(EXCH) | 0.000153 | -0.005133 | 0.237623 | 0.344882 |  |  |  |  |
|  | (0.00120) | (0.00184) | (0.46991) | (0.22783) |  |  |  |  |
| 5 Cointegrating Equation(s): | | Log likelihood | -1379.939 |  |  |  |  |  |
| Normalized cointegrating coefficients (standard error in parentheses) | | | | | | | | |
| RGDP | FDI | FPI | TOP | REM | ODA | CPS\_GDP | INT | EXCH |
| 1.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | -1.348780 | -2162.463 | 57.49338 | -31.43435 |
|  |  |  |  |  | (0.24639) | (185.261) | (172.788) | (21.8848) |
| 0.000000 | 1.000000 | 0.000000 | 0.000000 | 0.000000 | -0.155699 | -186.9104 | -8.139491 | 13.75297 |

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|  |  |  |  |  | (0.03316) | (24.9341) | (23.2554) | (2.94546) |
| 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | 0.021053 | -4.388771 | 2.472575 | -2.104047 |
|  |  |  |  |  | (0.00144) | (1.08174) | (1.00891) | (0.12779) |
| 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | -0.036365 | 3.762522 | -2.705530 | 2.208266 |
|  |  |  |  |  | (0.00306) | (2.30206) | (2.14708) | (0.27194) |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.131703 | 37.19710 | 20.83252 | -14.61470 |
|  |  |  |  |  | (0.01921) | (14.4430) | (13.4706) | (1.70615) |
| Adjustment coefficients (standard error in parentheses) | | | | | | | | |
| D(RGDP) | -0.244525 | 0.644653 | 64.51654 | 34.96967 | -2.177747 |  |  |  |
|  | (0.06427) | (0.34001) | (20.7367) | (10.1478) | (0.86362) |  |  |  |
| D(FDI) | 0.060380 | -0.536298 | -8.187918 | -2.513244 | 0.129856 |  |  |  |
|  | (0.02615) | (0.13835) | (8.43773) | (4.12912) | (0.35140) |  |  |  |
| D(FPI) | 0.000204 | 0.008792 | -0.921209 | -0.535798 | -0.007348 |  |  |  |
|  | (0.00106) | (0.00560) | (0.34150) | (0.16712) | (0.01422) |  |  |  |
| D(TOP) | -0.000957 | 0.001918 | 0.263412 | 0.083804 | -0.017567 |  |  |  |
|  | (0.00069) | (0.00368) | (0.22416) | (0.10970) | (0.00934) |  |  |  |
| D(REM) | -0.050777 | 0.257985 | 8.482789 | 2.232857 | -0.606119 |  |  |  |
|  | (0.02273) | (0.12027) | (7.33529) | (3.58963) | (0.30549) |  |  |  |
| D(ODA) | 0.292578 | 1.019333 | -104.5876 | -12.80374 | 9.440064 |  |  |  |
|  | (0.16065) | (0.84993) | (51.8355) | (25.3664) | (2.15878) |  |  |  |
| D(CPS\_GDP) | 0.000295 | -0.001151 | 0.044935 | 0.001045 | -0.004898 |  |  |  |
|  | (0.00015) | (0.00079) | (0.04846) | (0.02371) | (0.00202) |  |  |  |
| D(INT) | -0.000639 | 0.001802 | 0.195163 | 0.109478 | -0.002346 |  |  |  |
|  | (0.00044) | (0.00234) | (0.14295) | (0.06996) | (0.00595) |  |  |  |
| D(EXCH) | 0.001547 | -0.016300 | -0.019489 | 0.211865 | 0.029963 |  |  |  |
|  | (0.00150) | (0.00792) | (0.48297) | (0.23635) | (0.02011) |  |  |  |
| 6 Cointegrating Equation(s): | | Log likelihood | -1369.794 |  |  |  |  |  |
| Normalized cointegrating coefficients (standard error in parentheses) | | | | | | | | |
| RGDP | FDI | FPI | TOP | REM | ODA | CPS\_GDP | INT | EXCH |
| 1.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | -2320.958 | 264.9487 | -108.8369 |
|  |  |  |  |  |  | (127.211) | (133.963) | (14.2042) |
| 0.000000 | 1.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | -205.2066 | 15.80848 | 4.817872 |
|  |  |  |  |  |  | (19.1155) | (20.1301) | (2.13441) |
| 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | 0.000000 | -1.914883 | -0.765507 | -0.895904 |
|  |  |  |  |  |  | (0.45313) | (0.47718) | (0.05060) |
| 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -0.510735 | 2.887752 | 0.121386 |
|  |  |  |  |  |  | (0.62996) | (0.66340) | (0.07034) |

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| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 52.67354 | 0.575354 | -7.056656 |
|  |  |  |  |  |  | (8.11102) | (8.54152) | (0.90566) |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 1.000000 | -117.5103 | 153.8096 | -57.38708 |
|  |  |  |  |  |  | (57.4844) | (60.5355) | (6.41862) |
| Adjustment coefficients (standard error in parentheses) | | | | | | | | |
| D(RGDP) | -0.218033 | 0.641542 | 59.22908 | 18.22943 | -1.867159 | -0.001333 |  |  |
|  | (0.06527) | (0.32782) | (20.4077) | (16.2406) | (0.86667) | (0.09286) |  |  |
| D(FDI) | 0.067390 | -0.537121 | -9.587062 | -6.942973 | 0.212042 | -0.069894 |  |  |
|  | (0.02713) | (0.13628) | (8.48355) | (6.75128) | (0.36028) | (0.03860) |  |  |
| D(FPI) | -0.000378 | 0.008861 | -0.804939 | -0.167683 | -0.014178 | -0.001850 |  |  |
|  | (0.00104) | (0.00524) | (0.32596) | (0.25940) | (0.01384) | (0.00148) |  |  |
| D(TOP) | -0.001022 | 0.001925 | 0.276306 | 0.124626 | -0.018324 | 0.001251 |  |  |
|  | (0.00073) | (0.00367) | (0.22841) | (0.18177) | (0.00970) | (0.00104) |  |  |
| D(REM) | -0.058620 | 0.258906 | 10.04817 | 7.188891 | -0.698070 | 0.054913 |  |  |
|  | (0.02335) | (0.11727) | (7.30041) | (5.80973) | (0.31003) | (0.03322) |  |  |
| D(ODA) | 0.325969 | 1.015412 | -111.2521 | -33.90363 | 9.831538 | -1.084745 |  |  |
|  | (0.16770) | (0.84230) | (52.4352) | (41.7284) | (2.22682) | (0.23860) |  |  |
| D(CPS\_GDP) | 0.000281 | -0.001149 | 0.047723 | 0.009871 | -0.005062 | 6.07E-05 |  |  |
|  | (0.00016) | (0.00079) | (0.04937) | (0.03929) | (0.00210) | (0.00022) |  |  |
| D(INT) | -0.000270 | 0.001759 | 0.121513 | -0.123700 | 0.001980 | -2.58E-05 |  |  |
|  | (0.00039) | (0.00198) | (0.12315) | (0.09801) | (0.00523) | (0.00056) |  |  |
| D(EXCH) | 0.001057 | -0.016243 | 0.078225 | 0.521229 | 0.024223 | -0.003153 |  |  |
|  | (0.00154) | (0.00774) | (0.48193) | (0.38353) | (0.02047) | (0.00219) |  |  |
| 7 Cointegrating Equation(s): | | Log likelihood | -1362.035 |  |  |  |  |  |
| Normalized cointegrating coefficients (standard error in parentheses) | | | | | | | | |
| RGDP | FDI | FPI | TOP | REM | ODA | CPS\_GDP | INT | EXCH |
| 1.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 272.0580 | -245.8445 |
|  |  |  |  |  |  |  | (512.813) | (43.7236) |
| 0.000000 | 1.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 16.43705 | -7.295603 |
|  |  |  |  |  |  |  | (50.3210) | (4.29049) |
| 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | -0.759641 | -1.008940 |
|  |  |  |  |  |  |  | (0.65370) | (0.05574) |
| 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | 0.000000 | 2.889316 | 0.091237 |
|  |  |  |  |  |  |  | (0.64941) | (0.05537) |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | 0.414009 | -3.947304 |
|  |  |  |  |  |  |  | (11.1012) | (0.94651) |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 154.1695 | -64.32378 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  | (69.8529) | (5.95582) |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.003063 | -0.059031 |
|  |  |  |  |  |  |  | (0.23331) | (0.01989) |
| Adjustment coefficients (standard error in parentheses) | | | | | | | | |
| D(RGDP) | -0.225295 | 0.707098 | 58.08043 | 16.99654 | -1.460082 | -0.002427 | 146.8665 |  |
|  | (0.06492) | (0.33289) | (20.1568) | (16.0731) | (0.98966) | (0.09151) | (60.2041) |  |
| D(FDI) | 0.073432 | -0.591663 | -8.631396 | -5.917217 | -0.126644 | -0.068984 | 0.596339 |  |
|  | (0.02574) | (0.13198) | (7.99125) | (6.37227) | (0.39235) | (0.03628) | (23.8682) |  |
| D(FPI) | -0.000386 | 0.008928 | -0.806128 | -0.168959 | -0.013757 | -0.001851 | 0.150961 |  |
|  | (0.00105) | (0.00540) | (0.32674) | (0.26054) | (0.01604) | (0.00148) | (0.97590) |  |
| D(TOP) | -0.000978 | 0.001529 | 0.283258 | 0.132088 | -0.020788 | 0.001258 | 0.311744 |  |
|  | (0.00073) | (0.00377) | (0.22799) | (0.18180) | (0.01119) | (0.00104) | (0.68095) |  |
| D(REM) | -0.051761 | 0.196997 | 11.13292 | 8.353200 | -1.082503 | 0.055947 | 23.03043 |  |
|  | (0.02104) | (0.10786) | (6.53086) | (5.20774) | (0.32065) | (0.02965) | (19.5063) |  |
| D(ODA) | 0.357145 | 0.734005 | -106.3214 | -28.61129 | 8.084104 | -1.080048 | -60.88081 |  |
|  | (0.16226) | (0.83196) | (50.3752) | (40.1695) | (2.47332) | (0.22869) | (150.460) |  |
| D(CPS\_GDP) | 0.000280 | -0.001141 | 0.047567 | 0.009703 | -0.005007 | 6.05E-05 | -0.786805 |  |
|  | (0.00016) | (0.00082) | (0.04949) | (0.03947) | (0.00243) | (0.00022) | (0.14782) |  |
| D(INT) | -0.000294 | 0.001981 | 0.117626 | -0.127872 | 0.003357 | -2.95E-05 | 0.180454 |  |
|  | (0.00040) | (0.00203) | (0.12289) | (0.09799) | (0.00603) | (0.00056) | (0.36705) |  |
| D(EXCH) | 0.001281 | -0.018264 | 0.113648 | 0.559250 | 0.011670 | -0.003119 | 2.313755 |  |
|  | (0.00152) | (0.00778) | (0.47093) | (0.37552) | (0.02312) | (0.00214) | (1.40656) |  |
| 8 Cointegrating Equation(s): | | Log likelihood | -1357.900 |  |  |  |  |  |
| Normalized cointegrating coefficients (standard error in parentheses) | | | | | | | | |
| RGDP | FDI | FPI | TOP | REM | ODA | CPS\_GDP | INT | EXCH |
| 1.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | -267.0686 |
|  |  |  |  |  |  |  |  | (41.6108) |
| 0.000000 | 1.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | -8.577906 |
|  |  |  |  |  |  |  |  | (4.01973) |
| 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | -0.949678 |
|  |  |  |  |  |  |  |  | (0.05275) |
| 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | -0.134167 |
|  |  |  |  |  |  |  |  | (0.08456) |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | 0.000000 | -3.979602 |
|  |  |  |  |  |  |  |  | (0.88403) |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | 0.000000 | -76.35101 |
|  |  |  |  |  |  |  |  | (6.99146) |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.000000 | -0.059270 |
|  |  |  |  |  |  |  |  | (0.01858) |
| 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 1.000000 | 0.078013 |
|  |  |  |  |  |  |  |  | (0.02980) |
| Adjustment coefficients (standard error in parentheses) | | | | | | | | |
| D(RGDP) | -0.227673 | 0.665671 | 59.18097 | 13.37094 | -1.526090 | 0.001464 | 156.4575 | -34.24744 |
|  | (0.06440) | (0.33568) | (20.0328) | (16.8503) | (0.98527) | (0.09082) | (61.3900) | (38.8715) |
| D(FDI) | 0.072447 | -0.608830 | -8.175339 | -7.419646 | -0.153997 | -0.067372 | 4.570793 | -6.429705 |
|  | (0.02551) | (0.13296) | (7.93492) | (6.67434) | (0.39026) | (0.03597) | (24.3163) | (15.3968) |
| D(FPI) | -0.000281 | 0.010758 | -0.854726 | -0.008858 | -0.010842 | -0.002023 | -0.272564 | -0.608889 |
|  | (0.00098) | (0.00509) | (0.30365) | (0.25541) | (0.01493) | (0.00138) | (0.93053) | (0.58920) |
| D(TOP) | -0.001052 | 0.000236 | 0.317607 | 0.018929 | -0.022848 | 0.001379 | 0.611090 | 0.454029 |
|  | (0.00068) | (0.00354) | (0.21142) | (0.17783) | (0.01040) | (0.00096) | (0.64789) | (0.41023) |
| D(REM) | -0.050371 | 0.221211 | 10.48964 | 10.47243 | -1.043921 | 0.053672 | 17.42433 | 6.673015 |
|  | (0.02040) | (0.10634) | (6.34596) | (5.33781) | (0.31211) | (0.02877) | (19.4470) | (12.3136) |
| D(ODA) | 0.347902 | 0.573016 | -102.0446 | -42.70067 | 7.827591 | -1.064928 | -23.60945 | -13.41522 |
|  | (0.15870) | (0.82720) | (49.3663) | (41.5237) | (2.42796) | (0.22380) | (151.281) | (95.7898) |
| D(CPS\_GDP) | 0.000289 | -0.000984 | 0.043396 | 0.023441 | -0.004757 | 4.58E-05 | -0.823148 | 0.012567 |
|  | (0.00016) | (0.00081) | (0.04852) | (0.04081) | (0.00239) | (0.00022) | (0.14869) | (0.09415) |
| D(INT) | -0.000262 | 0.002542 | 0.102727 | -0.078788 | 0.004251 | -8.22E-05 | 0.050608 | -0.657354 |
|  | (0.00038) | (0.00197) | (0.11734) | (0.09870) | (0.00577) | (0.00053) | (0.35960) | (0.22769) |
| D(EXCH) | 0.001408 | -0.016059 | 0.055048 | 0.752298 | 0.015184 | -0.003326 | 1.803074 | 0.525115 |
|  | (0.00144) | (0.00751) | (0.44842) | (0.37718) | (0.02205) | (0.00203) | (1.37417) | (0.87011) |

**ERROR CORRECTION MODEL**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: LRGDP | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 07:42 | | | | |
| Sample: 1986 2020 |  |  |  |  |
| Included observations: 35 | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| ECM(-1) | -0.468294 | 0.232636 | -2.012994 | 0.0455 |
| LFDI | 3.528826 | 1.170760 | 3.014132 | 0.0057 |
| LFPI | 194.0636 | 29.52935 | 6.571888 | 0.0000 |
| REM | -3.618610 | 2.683385 | -1.348524 | 0.1891 |
| LODA | 0.984469 | 0.193491 | 5.087938 | 0.0000 |
| LTOP | 140.6051 | 50.61836 | 2.777748 | 0.0100 |
| LINT | 122.0478 | 120.9420 | 1.009144 | 0.3222 |
| LEXCH | -53.27011 | 25.85094 | -2.060664 | 0.0495 |
| LCPS\_GDP | 547.9377 | 209.5871 | 2.614367 | 0.0147 |
| C | 1066.001 | 4946.074 | 0.215525 | 0.8310 |
| R-squared | 0.684646 | Mean dependent var | | 38577.16 |
| Adjusted R-squared | 0.679922 | S.D. dependent var | | 20479.94 |
| S.E. of regression | 2901.975 | Akaike info criterion | | 19.00120 |
| Sum squared resid | 2.19E+08 | Schwarz criterion |  | 19.40115 |
| Log likelihood | -323.5211 | Hannan-Quinn criter. | | 19.13927 |
| F-statistic | 208.4198 | Durbin-Watson stat | | 1.892712 |
| Prob(F-statistic) | 0.000000 |  | |  |

**DIAGNOSTIC TEST RESULTS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Breusch-Godfrey Serial Correlation LM Test: | | | | |
| F-statistic | 4.507049 | Prob. F(2,24) |  | 0.1218 |
| Obs\*R-squared | 9.556325 | Prob. Chi-Square(2) | | 0.1084 |
| Test Equation: |  |  |  |  |
| Dependent Variable: RESID | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 07:43 | | | | |
| Sample: 1986 2020 |  |  |  |  |
| Included observations: 35 | | | | |
| Presample missing value lagged residuals set to zero. | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| LFDI | -0.063859 | 1.133810 | -0.056322 | 0.9556 |
| LFPI | -22.18940 | 27.54622 | -0.805533 | 0.4284 |
| LREM | 0.890107 | 2.652049 | 0.335630 | 0.7401 |
| LODA | 0.017732 | 0.198536 | 0.089312 | 0.9296 |
| LTOP | -22.89159 | 45.56410 | -0.502404 | 0.6200 |
| LINT | -43.95977 | 108.5262 | -0.405061 | 0.6890 |
| LEXCH | 15.44652 | 23.94470 | 0.645091 | 0.5250 |
| LCPS\_GDP | 83.26385 | 199.3122 | 0.417756 | 0.6798 |
| C | 1760.357 | 4432.226 | 0.397172 | 0.6948 |
| RESID(-1) | 0.507183 | 0.198512 | 2.554919 | 0.0174 |
| RESID(-2) | -0.468294 | 0.232636 | -2.012994 | 0.0555 |
| R-squared | 0.273038 | Mean dependent var | | 2.48E-12 |
| Adjusted R-squared | -0.029863 | S.D. dependent var | | 2537.703 |
| S.E. of regression | 2575.316 | Akaike info criterion | | 18.79661 |
| Sum squared resid | 1.59E+08 | Schwarz criterion |  | 19.28543 |
| Log likelihood | -317.9407 | Hannan-Quinn criter. | | 18.96535 |
| F-statistic | 0.901410 | Durbin-Watson stat | | 1.836884 |
| Prob(F-statistic) | 0.546494 |  | |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Heteroskedasticity Test: Breusch-Pagan-Godfrey | | | | |
| F-statistic | 0.905751 | Prob. F(8,26) |  | 0.5266 |
| Obs\*R-squared | 7.628290 | Prob. Chi-Square(8) | | 0.4706 |
| Scaled explained SS | 4.676163 | Prob. Chi-Square(8) | | 0.7916 |
| Test Equation: |  |  |  |  |
| Dependent Variable: RESID^2 | | | | |
| Method: Least Squares |  |  |  |  |
| Date: 10/11/21 Time: 07:44 | | | | |
| Sample: 1986 2020 |  |  |  |  |
| Included observations: 35 | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | 1102171. | 16306651 | 0.067590 | 0.9466 |
| LFDI | -1459.355 | 3859.866 | -0.378084 | 0.7084 |
| LFPI | -46001.59 | 97354.95 | -0.472514 | 0.6405 |
| LREM | 8967.871 | 8846.820 | 1.013683 | 0.3201 |
| LODA | 317.1965 | 637.9173 | 0.497238 | 0.6232 |
| LTOP | -199.8096 | 166883.0 | -0.001197 | 0.9991 |
| LINT | 53320.74 | 398732.2 | 0.133726 | 0.8946 |
| LEXCH | 88374.30 | 85227.66 | 1.036920 | 0.3093 |
| LCPS\_GDP | -123469.1 | 690985.3 | -0.178686 | 0.8596 |
| R-squared | 0.217951 | Mean dependent var | | 6255940. |
| Adjusted R-squared | -0.022679 | S.D. dependent var | | 9460804. |
| S.E. of regression | 9567485. | Akaike info criterion | | 35.20267 |
| Sum squared resid | 2.38E+15 | Schwarz criterion |  | 35.60262 |
| Log likelihood | -607.0468 | Hannan-Quinn criter. | | 35.34073 |
| F-statistic | 0.905751 | Durbin-Watson stat | | 1.822092 |
| Prob(F-statistic) | 0.526639 |  | |  |