EFFECT OF CAPITAL FLIGHT ON DOMESTIC INVESTMENT IN NIGERIA

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MATRIC NUMBER: 14/68MT001

BEING A RESEARCH THESIS SUBMITTED AND PRESENTED TO THE DEPARTMENT OF FINANCE, FACULTY OF MANAGEMENT SCIENCES, UNIVERSITY OF ILORIN, ILORIN, NIGERIA

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF DOCTOR OF PHILOSOPHY (Ph.D.) DEGREE IN FINANCE

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CERTIFICATION

This is to certify that this Ph.D. research thesis has been read and approved as meeting the requirements of the Department of Finance, Faculty of Management Sciences, University of Ilorin, Ilorin, Nigeria.

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DECLARATION

I, ADEKUNLE, Ahmed Oluwatobi hereby declare that this thesis entitled “Effect of Capital Flight on Domestic Investment in Nigeria” is a record of my research work. It has neither been submitted nor accepted for the award of any degree. All sources of information have been specially acknowledged.

In addition to the above, the research work has been ethically approved by the University Ethical Review Committee.

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ADEKUNLE, A. O . Date

DEDICATION

To my mother Mrs. Azeezat A. ADEKUNLE

To my wife and daughter

Olufunke ADEKUNLE and Wuraolami ADEKUNLE

And above all to

Almighty GOD the creator and owner of all kinds of knowledge

ACKNOWLEDGEMENTS

I give praise and adoration to GOD for His protection, provision and divine guidance throughout the period of this research work.

I am grateful to my indefatigable supervisor, Dr. I. B. ABDULLAHI, who despite his tight schedule, created time and made immense contributions to the success of this research work. God bless you Sir, I appreciate.
I also appreciate Professor R. A. BELLO, Professor R.O.C Somoye, Professor Oloyede, Dr. T.O Fagbemi and Dr. A.A Kilishi for their useful correction and contributions. I also appreciate the Dean, Faculty of Management Sciences, Professor Sidikat L. ADEYEMI for his contributions.
I deeply appreciate the unquantifiable effort and mentoring of Dr. Olubunmi F. OSEMENE I pray that God in His infinite mercy will reward you abundantly. Thank you so much Ma. Dr. M.A AJAYI, the HOD of Finance, you are highly valued for your fatherly guidance during the program. The support and cooperation of my Postgraduate Coordinator – Dr. Rihanat I. ABDULKADIR is highly appreciated.

Furthermore, a big thank you goes to Dr. IJAIYA M. A. for his support and guidance at all times. My appreciation is also extended to all the lecturers in the Departments of Accounting and Finance who have contributed greatly to the success of this research work. They are Dr. Oyebola F. Etudaiye-Muhtar, Dr. A. S. Kasum, Dr. Khadijat A. Yahaya, Dr. Ramat T. Salman and my profound appreciation also goes to the non-academic staff in the Departments, for their kind support towards the success of the research work. These include Mrs. J. B. Adetayo, Mr. I. Babatunde, Mrs. I. F. Adegboye, Mr. I. Abdul-Salam, Mrs. T. Oluwole, Mrs. R. Y. Garuba, Mr. P. Agboola and Mrs. A. Ajagbe. Thank you all.

The immense contribution of my father Mr. Owoseni A. ADEKUNLE and my mother Mrs. Azeezat A. ADEKUNLE, is highly appreciated. Thank you for your support all the time. To my in-laws – Mr & Mrs OYELEYE, my brothers and sister – Abiola, Abiodun, Oluwasegun and Bisi. Thank you all for your support.

ADEKUNLE O. Ahmed

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ABSTRACT

Domestic investment has been one of the perturbing and persistent macroeconomic issues affecting Nigeria for decades. Capital flight represents forgone domestic investment in productive capacity of any economy. Against this background, the study evaluates the effects of capital flight on domestic investment in Nigeria. The objectives were to: (i) investigate the economic variables influencing domestic investments in Nigeria; (ii) evaluate the specific effects of individual components of capital flight on domestic investments in Nigeria; (iii) examine the causal relationship between domestic investments and individual components of capital flight; and (iv) examine the combined effect of foreign direct investment, exchange rate and energy infrastructure on domestic investment in Nigeria. The underpining theory employed is the flexible accelerator theory. The study utilized time series design and annual data covering 37 years obtained from the Central Bank of Nigeria Statistical Bulletin and World Bank data base. Four models were used to capture its four specific objectives using Autoregressive Distributive Lag Model (ARDL) and Vector Error Correction (VEC) Granger causality estimate.

The findings of the study were that:

(i) capital flight ($\beta = -0.22$; $p < 0.05$), inflation ($\beta = -11.36$; $p < 0.05$), exchange rate ($\beta = -0.09$; $p < 0.05$) have negative influence on domestic investments while savings ($\beta = 1.74$; $p < 0.05$) has positive and significant influence on domestic investments in the long run. Cointegration exists among the variables with error correction coefficient 0.80; $p = 0.0011$ conforming to a priori expectation;

(ii) changes in external debt ($\beta = -0.04$; $p < 0.05$), current account balance ($\beta = -0.23$; $p < 0.05$) and foreign direct investments ($\beta = -0.15$; $p > 0.05$) have negative effect on domestic investments in the short run and long run. However, external reserves ($\beta = 0.41$; $p < 0.05$) shows a positive and significant effect on domestic investment. The error correction coefficient estimate is 0.74; $p = 0.0011$, significant and conform to a priori expectation;

(iii) domestic investment does not Granger-cause current account balance (chi-square = 0.47, $p = 0.79$). Furthermore, domestic investment does not Granger-cause change in external reserves (chi-square = 0.24, $p = 0.88$). There is a uni-directional relationship between change in external debt and domestic investment, which shows that external debt Granger-causes domestic investment at 0.05 level of significance;

(iv) foreign direct investment ($\beta = 1.89$; $p < 0.05$), exchange rate ($\beta = 0.03$; $p > 0.05$) and infrastructure ($\beta = 0.07$; $p > 0.05$). The combined effect is 87%.

The study concluded that capital flight, exchange rate and inflation influence domestic investment negatively both in the short and long run. Hence, the study recommended that the repatriation of fled capital can help boost the level of domestic investment in Nigeria. In addition, monitoring imported inflation through goods and services will result to less risk of depreciation in real value of domestic investment since low and stable inflation minimizes and stabilizes budgetary deficit and capital flight.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The existence of an organized and well- structured economy is critical to the growth of domestic investment in any country. Various policies had been implemented in Nigeria to aid her economy growth and development since she attained her independence since 1960 by regulating the size of domestic investment or circuitously via policies designed at decreasing capital flight in the system. Domestic investment is a tool of unimpeded effective economic system which serves as an important factor that influencing economic growth of most economies of the world. This justifies why developing countries like Nigeria pursues the goal of growth induced economy with the effect of increasing domestic investment (i.e. think and buy Nigeria product) in order to abate massive capital flight.

Minimizing widespread poverty which is a major feature of the developing economies particularly, Nigerian economy can be perfected through sustained growth in investment with aggregate reduction in capital flight, because domestic investment provides more employment opportunities for citizens than any other investment does.

Domestic investments represent the driving force of any economy. This is because its ability to combine different production ideas to create quality services or goods for the ever increasing population enhances government revenue via foreign earnings via exports and taxes. It also improves balance of payment equilibrium and positions the country favorably among the League of Nations (Osinubi & Akinyele, 2006).

Contemporary analysis in Nigeria shows that domestic investments have contributed about 54.1% of Nigeria's Gross Domestic Product (GDP) by engaging about 10 per cent of the

labor force, usually from manufacturing sector of the economy (Federal Research Division, 2008). This means that the output of domestic investments may likely influence the levels of capital flight as well as economic growth. It has therefore been realized that domestic investment growth in Nigeria requires growth in savings; exchange rate stability to suppress inflationary trend and improvement in political stability and capital flight control.

However, shortages of investible resources needed to finance domestic investment have been associated with capital flight, making the country to seek more foreign funds to fill the gap created by insufficient investment funds and thereby aggravating the debt profile of the country. Capital flight confiscates most economies financial resources that could have been used for financing domestic investment by compressing tax revenues associated with such resources. Thus the capital flight problem has continued to generate an increasing concern for policy makers in most countries of the world, as it implies a loss of financial ability needed to accelerate domestic investments, foster economic growth and development.

When capital flight persists, the country is bound to experience political instability. This instability can come in different dimensions such as a rise in budget deficits, over-valuation of exchange rate, fluctuation in foreign reserves and high corruption tendencies as a result, will lead to the unfavorable economic environment of doing business and lack of opportunities for profitable investment in the domestic economy.

Another factor hindering the growth of domestic investment is exchange rate uncertainty. Steep exchange rates are ominous to investors because it causes high cost of doing business thereby dampening profits and investments. This is so because exchange rate volatility has serious implications for a wide series of products since the exchange rate pass-through on price (Taylor, 2000; Bodnar, Dumas & Marston, 2002).

In theory, changes in the exchange rate have two opposite effects on domestic investment. When domestic currency loss it values the marginal profits of infusing additional unit of money is likely to rise because there will be a rise in revenues from both domestic and foreign sales. This positive effect can be counter-balanced by the rising variable cost and the higher price for imported capital. The total impact of exchange rate movement on domestic investment remains an empirical question.

Essentially, savings which is stimulated by rates of interest on deposit and with the proclivity to enhance the capacity of commercial banks to give loan for viable economic activities has been seriously impaired for example, Commercial Bank loans and advances for small medium enterprise (SMEs) causing total private sector credit to fall from 27.04% in 1992 to 0.41% in 2011 (CBN, 2011). Ogujiuba, Ohuche and Adenuga (2004) in their findings confirmed that about 79 per cent of industries surveyed in 2001 identified lack of financial resources as their critical constraint.

The growth and development of any economy is a function of size of domestic investment. Essentially, developing country like Nigeria needs to be out of epileptic power supply for domestic investment concerns either small, medium or large scale firms in order to achieve desired growth and development the country desires (Ogunmuyiwa, Okuneye & Amaefule, 2017). Domestic investment in Nigeria has enormous advantages of stimulating economic growth and development as a result of abundant labour force simultaneously with abundant natural resources in the country. However, the epileptic power supply has not yielded the desired results for desired domestic investment that can position the economy to higher economic growth and development.

Theoretically, it is believed that political instability affects growth performance and formation of domestic investment because the internal factors of the local environment plays

an important role in promoting domestic investment in any country. Despite the abundant potential and lucrative business opportunities in Nigeria, domestic entrepreneurs often have major concerns for frequent changes and unpredictable policies, lack of follow-up for effective implementation of decisions, non-professional approach of government officials, corruption, political instability and epileptic power supply.

The effect embedded with capital flight component affects every individual within the system. The typical outcome of any economy is showed by level of inflation; exchange rate, and savings. Thus, domestic investment cannot be depurated from the effect of these factors called capital flight. In view of this, the need to establish the effects of capital flight on domestic investment in Nigeria becomes imperative in order to guide government, as well as local investors in policy formulation towards the growth of domestic investments in particular and the economy at large. This basically served as motivation for this current study.

1.2 Statement of the Problem

Capital flight represents forgone domestic investment in productive capacity of any economy. Even with the effort of the government to bolster domestic investment, Nigeria is still saddled with a number of economic maladies. Adjusting the economy to quick recovery, the situation continues to worsen as a result of dwindling domestic investments. The macroeconomic indicators in Nigeria reflected this poor outcome between 1970 through 2010. For example, domestic investment declined from 32.2% before 1970 to 6.5% in 1976. The ratio also declined to 5.8% in 1995 but experienced an increase to 8.3% in 2003 and later fell to 6.3% in 2010. The observable change in the ratio of domestic investment to GDP despite the emphasis on private sector following the initiation of public sector reform is worrisome.

Many a policy maker in the developing countries or fourth world has found capital flight as a major constraint in policy making and implementation. Earlier studies (Ayadi, 2008; Ajayi,

1995; Beja, 2013) indicated that capital flight has affected the economy by underming potential growth and development because it bridles saving and foreign exchange.

In the same vein, Ayadi (2008) shows that capital flight indirectly creates a great threat to any nation as it causes, among other things, a reduction in a country's tax base and domestic investment. Empirically, Ndikumana and Boyce (2011) show that countries with huge capital flight tend to have lower tax revenues. Thus in a developing country like Nigeria with low income, capital flight will undermine growth potentials by tightening investment and output.

Importantly, previous studies in Nigeria (Ikhide, 2004; Adetiloye, 2011; Adegbite & Adetiloye, 2013) broadly employed capital flight as aggregate in their analysis which may partially revealed the disposition and reality of effect of this variables on domestic investment, hence, a component analysis is pertinent which is the crux of this research work. Therefore, there exist measuring and methodological inadequacies in previous studies of which this study tried to filled in order to extend the frontier of knowledge beyond the aggregate nature of analysis to component analysis, which is more inclusive and the engine of economc growth in any nation including Nigeria.

1.3 Research Questions

Arising from the above established research problems, the following research questions are pursued:

(i) What are the basic economic variables influencing domestic investments in Nigeria?

(ii) What is the specific effect of individual component of capital flight on domestic investments in Nigeria?

(iii) What is the causal relationship between domestic investments and induvidual component of capital flight in Nigeria?

(iv) What is the combine effect of Foreign direct investment (FDI) and energy infrastructure on domestic investment in Nigeria?

1.4 Objectives of the Study

The main objective of this study is to analyze the effects of capital flight on the Nigerian domestic investments, while the specific objectives are to:

(i) Investigate economic variables influencing domestic investments in Nigeria.

(ii) evaluate the specific effects of individual components of capital flight on domestic investments in Nigeria;

(iii) examine the causal relationship between domestic investments and individual components of capital flight in the model; and

(iv) examine the combined effect of foreign direct investment (FDI) and energy infrastructure on domestic investment in Nigeria

1.5 Research Hypotheses

In order to provide a framework for analysing the effects of capital flight on domestic investment in Nigeria, the following hypotheses were formulated:

(i) H_1: No specific economic variables that significantly influence domestic investments in Nigeria.

(ii) H_2: Individual components of capital flight have no significant specific effect on domestic investments in Nigeria.

(iii) H_3: Individual components of capital flight have no significant causal relationship with domestic investments in Nigeria.

(iv) H_4: There is no significant combine effect between FDI, energy infrastructure and domestic investment in Nigeria.

1.6. Justification for the Study

Notably there are internal and external factors influencing domestic investments in Nigeria. This show that for a developing country like Nigeria to achieve the goal of growth in domestic investments, amongst other internal economic objectives, there is need to increase the tempo of domestic investments that would lead to higher economic growth with much focus on such factors that influence domestic investments internally and outside the national economy.

Domestic investments are the mainstream of economic growth of any nation. It is seeing that Nigeria has been classified as low savings and even lower investment economy (Ikhide, 2004). It is based on this fact that one of the global objectives of the Nigerian government is to stimulate sustained economic growth through the promotion of enabling investment

climate. Stimulation of sustained economic growth requires a balance between investment and such factors that affect it.

The erratic movement of domestic investment in Nigeria has become a source of doubt to all scholars, government and investors who are concerned about the growth of the economy. One of the major problems facing the economy has appeared to be low level of domestic investment. Series of policies has been made by Nigerian government at different times to tackle the problem, the menace still persists.

The motivation of this study is based on its relevance to contemporary economic considerations and issues surrounding domestic investment as a result of capital flight that could have been invested to spawn more investments in originating countries. Notably, priority should be placed on the specific components of capital flight in relation to domestic investments in order to know the specific effects of individual variables that constitute a measure of capital flight on domestic investment in Nigeria. The empirical evidences showed that previous studies focused on examining either domestic investment and economic growth or capital flight and economic growth (Ayadi, 2008; Agu, 2006; Emeagwali, 2000; Ajayi, 2000) and those study that examined domestic investment and capital flight, gauge capital flight as aggregate concept, failed to evaluate the relevance of specific variables that made up capital flight such as (Adegbite & Adetiloye, 2008).

It can be concluded that previous studies used aggregate analysis to evaluate capital flight and domestic investment, and failed to factor the defect of aggregate analysis of giving heterogeneous direction to a particular problem rather than giving a solution that is peculiar to a component, therefore, the need arise for component analysis. Also, there is methodological gap because earlier studies used error correction method and vector error correction method in analyzing capital flight and domestic investment. Capital flight or domestic investments are lag variables which make ARDL a suitable method than previous

method used by previous studies which cannot capture lag variables sufficiently, therefore ARDL become relevant for this analysis. Hence, this current study aimed at filling the methodological gap and contributes to the body of existing literature by examining the effects of capital flight on domestic investment in Nigeria using component analysis instead of aggregate analysis that is inadequate in nature. The current study will also be of relevance as a basis of improving the scholar's general perspective of the behaviour of key capital flight variables affecting domestic investment toward efficient macroeconomic reforms.

The theoretical importance of the study in understanding the importance of capital flight, its effects and possible relationship to domestic investment, in extension to empirically considered what effects other variables influencing domestic investment such as external debt, exchange rate, inflation etc. will have, provides an added empirical knowledge in the study of capital flight. As indicators of future growth, fiscal constraints and a nation's ability to finance international debt payment, the effects of capital flight on domestic investments are viewed as important signals of the efficacy of policy actions of government.

The knowledge gained through this study will be beneficial to the larger society and mainly policy makers in their choice of wide measures to address the scourge of capital flight. Finally this empirical study will serve as reference point for further studies in related areas as well as pointing to several areas requiring additional research efforts aimed at the further development of economic models.

1.7 Scope of the Study

This study is limited in scope to the empirical study of capital flight in Nigeria as it affects the growth of the domestic investments in the economy. The study covers the period of thirty six years ranging from 1980 to 2015. This period is justified by the fact that it coincides with the liberalization of the Nigerian economy through the adoption of Structural Adjustment Programme that provides the springboard for the various reforms and policies in the different sectors of the economy. It was during this time that the Economic Stabilization Act (ESA) which formally introduced austerity measures in Nigeria occurred, exactly in April, 1982. The Structural Adjustment Programme (SAP) which saw Nigeria attempting to invoke the power of market forces in restructuring her economy also occurred during this time in 1986. The deregulation of the economy was in 1987. In addition to the foregoing, it is the notice that very important innovations in the country's financial system also occurred during this period, notably the emergence of the Peoples Bank in 1988 and the Community Banks in 1991.

There was also a change in Nigeria's economic fortunes from a position of relative financial strength in the early to late 1990s to one of dismal financial weakness since the early 1980s, and also the period of the new economic initiatives like NEEDS, SEEDS and LEEDS. This study ends at 2015 due to pertinent economic reform that occurred during this period such as single treasury account, revamping of NNPC and direct cash settlement initiative made by government to foster the country to the growth path. Undoubtedly, this period of study would capture all the oscillations in Nigeria's economic development thrust with a view to evolving policies that will lead to a sustainable economic growth and development.

CHAPTER TWO

LITERATURE REVIEW

This section presents a review of literature on the effects of capital flight on domestic investment in Nigeria. It covers the conceptual, theoretical and empirical reviews. The conceptual review is presented in section 2.1; the theoretical review is contained in section 2.2 while section 2.3 caoncludes with empirical review. It also attempts to establish the theoretical and empirical foundation with a view to finding and examining the effects of capital flight on domestic investment in Nigeria.

2.1 Conceptual Review

This section contains the conceptual framework upon which the study is built. This includes: Domestic investment, economic growth, exchange rate, inflation, saving, political instability and capital flight.

2.1.1 Domestic Investment

Domestic investment is the amount of local physical investment employed in getting gross domestic product (GDP) of homelands' business activities. This is a good element of GDP

since it is an indicator of the impending industrious capacity of the country. It contains auxiliary acquisitions, net additions to capital asset plus investment in inventory.

Domestic investment contributes about 58.1% to Nigeria's Gross Domestic Product (GDP) by employing about 10 percent of the labor force mostly from industrial sector of the economy (Federal Research Division, 2014). This means that the output of domestic investment may likely influence the levels of capital flight in Nigeria. The persistent growth in output of domestic firms can in fact emerge and produce for export markets, thereby contributing to the total capital formation of the country of origin, and as well serve as foreign investors to other countries.

Net private investment is a crucial component of investment which measures the total amount of investment in capital by the business sector that is actually used to raise the capital stock. In general, capital depreciation is between 50 to 85 percent of gross investment. While net private domestic investment is generally positive, meaning gross investment exceeds depreciation, it is possible to have negative net investment, which presupposes that depreciation exceeds gross investment. Hence net private domestic investments represent expenditures on capital goods used in the domestic economy.

2.1.2 Economic Growth

Economic growth is a sustained increase in the productive capacity of a country often measured over time. It may be quantified in nominal or real terms, the latter having been subjected to inflation adjustment. Economic growth is more conventionally calculated in terms of gross national product (GNP). Sometimes, however, alternative metrics are equally applied.

In economics, capital is ordinarily thought to represent the physical form, which consists of structures and equipment meant for business concerns to a certain extent, increases in the capital for every worker productivity are an important cause of shifts in nations' production possibilities frontiers. Capital is subsceptible to diminishing returns due to growing burden of depreciation. In developmental economic theory, the distribution of income is considered to be among the owners of land, labor and capital. In recent years, several Asian countries with high rates of economic growth driven by capital investment have emerged.

Innovative activities leading to the creation and improvement of new and existing products can be a major cause of economic growth. This is because; new products create demand, which is necessary to offset the reduction in employment, foisted by labor saving technology.

2.1.3 Exchange Rate

Exchange rates are secure in the international exchange market and ready available to a wide range of buyers and sellers, particularly wherever currency transaction is fixed and continuous. The forward rate means exchange rate that is cited and operated today for which transfer and expense is made on a definite future date while spot rate simply means to the up-to-date exchange rate. All country determines regulatory and the rate of exchange policies valid to its currency.

2.1.4 Inflation

Inflation is the general and long term augmentation in the cost or prices of goods and services. Inflationary pressures may arise as a result of unexpected increases in cost unmatched by a rise in people's incomes. If incomes fail to rise in line with the prices of goods, everyone's purchasing power will be adversely affected. Sooner or later, this situation no doubt will snowball a crawling or stagnant economy. Moreover, excessive inflation can also wreak havoc on retirement savings as it places a crunch on the purchasing power of the money that savers and investors have squirreled away.

Generally, rise in price of goods and services affects countries in diverse possible way it can be positive or adverse dimension. The indirect effects of rise in price include a rise in the alternative cost of holding money. Vagueness above future course of rise in price may depress outlay and funds.

2.1.5 Savings

Savings constitute a sum not consumed or spent. Keynesian economics state that savings consists of the amount left over when the cost of a person's consumption expenditure is subtracted from the amount of disposable income he earns in a given period of time. However, for those who apply prudent expenditure tricks, the amount of money left over after personal expenses have been met can be positive. And for those who tend to depend on bank credit and loans to make ends meet, there might be no money balance for savings. Savings can be turned into investments of different forms which will lead to a generation of more income for individuals and firms.

The effect of taxation on domestic savings is seen as endogenous and need to be managed proactively since taxes and subsidies are used to influence consumption and production. Distortionary taxation may encourage or discourage capital outflows and inflows when taxes are imposed on income from abroad, which is not without difficulties (Razin & Sadka, 1989). Quantitative restrictions might be applied as a mechanism of managing the spate of capital transfers abroad. Optimal taxation is consistent with aggregate production efficiency in a closed economy, but economies are no longer closed. The optimal allocation of domestic savings would ensure that the incentive to locate capital abroad is eliminated, if before tax rate of return on domestic capital (i.e. the marginal productivity of domestic capital) should be equated to the world rate of interest *ceteris paribus.*

2.1.6 Political Instability

Political instability can be defined in at least three ways. A first way is to define it as the propensity for a regime or government to change. The second is to focus on the incidence of political upheaval or violence in a society, such as assassinations, demonstrations, and so forth. The third approach deals with policy somersaults much more than political instability.

Political instability has been defined by many authors, and suggested indices for measuring the truncation of the same amongst nations. Some of these indices have been developed primarily for academic and policy purposes. Such include the polity indices and the World Bank governance indices. The inclusion of objective data on political violence, such as the number of assassinations and demonstrations, in data sets for academic studies is now commonplace.

Empirical enquiries are currently laying emphasis on the strategic role of public institutions. Early growth studies, such as that of Levine and David Renelt, suggest that frequent revolutions and coups exert a strong influence on investment, which in turn affects growth. Daron Acemoglu and others utilized data from the PRS group and POLITY to test the impact of institutions on growth. While Alberto Alesina, Roberto Perotti and Jakob Svensson applied indices of political unrest and violence, and indices of government change, as independent variables. Aymo Brunetti and Beatrice Weder in a related study , included both objective and perceptions indices such as those of the ICRG. Some early-twenty-first century studies on foreign direct investment (FDI) were conducted based on perceptions indices. Steven Globerman and Daniel Shapiro employed the Kaufmann's governance indicators to study the pattern of FDI across countries, while Philipp Harms and Heinrich W. Ursprung used a set of ICRG indices for the same purpose.

2.1.7 Foreign Direct Investment

Foreign direct investment is an investment made by domestic investors in a foreign nation either in the form of establishing business or acquisition of existing business assets.

Trade flows and FDI can be linked in different ways. Goldberg and Klein, (1998) confirmed that FDI encourages export promotion, import substitution, and greater exchange in intermediate inputs between parent and subsidiaries. The orientation of most multinational firms towards exports may equally serve as a catalyst for integrating the FDI host economy into a global production network in whose sectors it might not have had industrial experience (OECD, 1998). Rodriguez Clare (1996); Calderón, Mortimore and Peres (1996) argue that the very nature of the activities of multinational enterprises in Mexico could encourage the expansion of its industrial exports. These studies clearly indicate that FDI directly relates to export trade in goods, enabling the host country to enjoy an FDI-export growth.

Aykut and Ratha (2003) also discuss factors responsible for the rise in South-South flows, and distinguish between pull and push factors but not in African context (with the exception of South Africa). Push factors include:

(i) Rising wealth in emerging markets

(ii) Rising cost of labour and non-tradables

(iii) Breaking up domestic monopolies

(iv) New technology and communications improving information sharing and reducing transaction costs

(v) Strategic, desire to procure inputs such as oil

(vi) Capital account liberalisation regarding outward FDI, changes in trade barriers, regional trade agreements, and government policies encouraging outward FDI.

Pull factors include:

(i) Large and growing markets

(ii) Geographic proximity and ethnic and cultural ties

(iii) Supply of cheap labour

(iv) Abundance in raw materials

(v) Incentives in host countries, preferential treatment of foreign companies, and export markets through preferential treatment.

Cost factors have reduced the relative attractiveness of developing countries, and Africa in particular, as destinations for foreign investment, although market factors are probably exerting reinforcing effects. The importance of information and the dearth of information about Africa (outside its shores) both suggest that increasing investment in Africa may be achieved faster by African investors. Policy presents fewer barriers but can also be reduced with incentives.

Nunnenkamp and Spatz (2003) however criticized the view that developing countries should draw on FDI to create economic development.

2.1.8 Energy Infrastructure

Conceptually, energy infrastructure may affect aggregate output in two major ways: (i) directly, considering the sector contribution to GDP formation and as an additional input in the production process of other sectors; and (ii) indirectly, raising total factor productivity by reducing transaction and other costs thus allowing a more efficient use of conventional productive inputs. Infrastructure can be considered a complementary factor for economic growth.

Energy infrastructure investment is complementary to other investment in the sense that infrastructure deficits constrain other investment, while excessive infrastructure investment has no added value. To the extent that suboptimal infrastructure investment constrains other investment, it constrains growth (Newbery, 2012).

2.1.9 Capital Flight

Walter (1987) stated that capital flight appears to consist of a subset of international asset redeployments or portfolio adjustments undertaken in response to a significantly perceived deterioration in risk-return profiles associated with assets located in a particular country that occur in the presence of conflict between the objectives of asset holders and governments. It may and may not violate the law. It is always considered by the authorities to violate an implied social contract.

2.2 Theoretical Review

This section presents a review of theoretical literature upon which the study is anchored. It covers fixed accelerator theory of investment and flexible accelerator theory of investment.

2.2.1 The Fixed Accelerator Theory

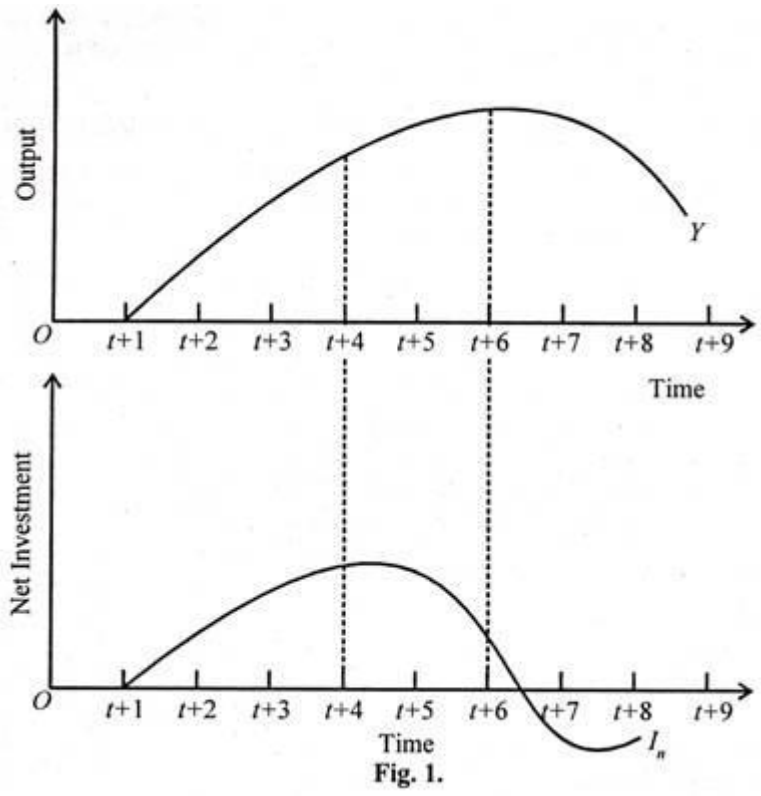


Figure 1: Optimum Capital Stock to Output

Generally, non-flexible acceleration principle, the ratio of the desired capital stock to output is hinged on the assumption of non-technical constants of production. Schematic 2 shows the two isoquants Y and Y_1. The firm generates K optimal capital stock with T output. Assuming the firm desires to produce Y_1 output, it is required to improve its prime capital stock to K_1.

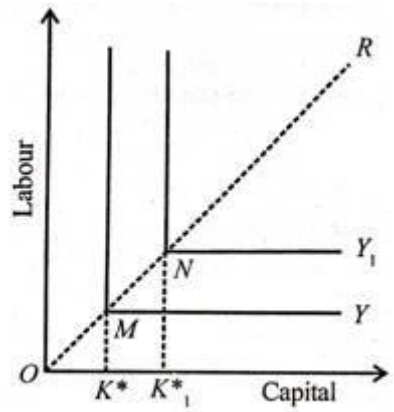


Fig. 2.

Generally, non-flexible acceleration principle, the ratio of the desired capital stock to output is hinged on the assumption of non-technical constants of production. Schematic 2 shows the two isoquants Y and Y_1. The firm generates K optimal capital stock with T output. Assuming the firm desires to produce Y_1 output, it is required to improve its prime capital stock to K_1.

Figure 2: Optimum Capital Stock to Output

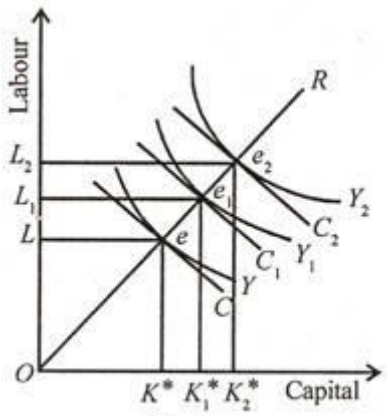


Fig. 3

Figure 3: Optimum Capital Stock to Output

2.2.2 The Flexible Accelerator Theory or Lags in Investment

The flexible accelerator theory eliminates the strong faintness of the non-accelerator standard which clenches that the capital stock can adjust optimally without any past or immediate time lag. However, in non-fixed accelerator theory, the modification method between the level of output and the level of capital stock is based on past and immediate time lag (Chenery, Goodwin, Koyck and Junankar are the originators of the theory. But the most accepted approach is that of Koyck.).

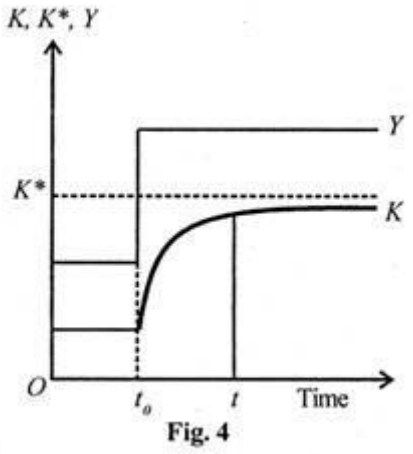


Figure 4: Optimum Capital Stock, Output and Time

2.2.3 The Flexible and Naive Accelerators: A Comparison

Since the naive accelerator and non-naive-accelerator are both accelerators, the long-run reaction of investment to a variation in production will be related. Consider a situation where output (Y) is rising at a decreasing rate and ultimately stops rising at a high level.

This is shown in Figure 5. But, in the case of the naive accelerator, net investment will be decreasing continuously and will also become zero, as shown in Figure 6. In both accelerators, gross investment will be equal to depreciation.

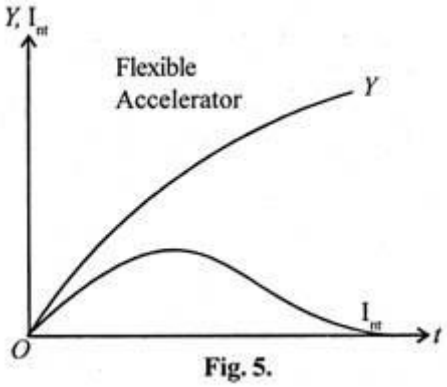


Figure 5: Flexible accelerator

2.2.4 Relevance of the Theories to the Study

The hypotheses of venture would national of the examine about impacts of capital flight on provincial speculation previously, Nigeria. The hypotheses are a physique for learning used to help those administration also firm approach making. Ali and Mshelia (2007) watched that venture may be those practically vital component influencing Growth in At whatever nat. It may be portrayed likewise the fundamental way with expanded level for profit. A solid relationship between venture What's more budgetary development need been uncovered toward both hypothetical and experimental investigations toward real improvement economists in the reality (Adofu, 2010). Similarly, Muhammad (2004) noted that financing assumes a vital What's more certain part to advancement What's more success from claiming any country.

2.3 Empirical Literature

This section presents a review of relevant empirical evidences on the study. It covers studies in developed, emerging as well as Nigerian economies.

2.3.1 Effects of Capital Flight on Domestic Investment: Evidence from Developed Economies

Debt is another factor believed to have serious impact on domestic investment (Clark, 1993; Cozier & Selody, 1992; Dewan, Hussein & Morling, 1999; Jarrett & Selody, 1992; Buck & Fitzroy, 1988; Barro, 1995). Clark (1993) studied a sample of eighty-five countries and concluded that the theory provides little or no.

Collier (2001), Lesotho (2006) and Dutta (2008) considering the economic axiom that investment is a main component in the calculation of GDP, it is not implausible to infer that its fall reduces GDP as it causes fall in the productive capacity for sustainable long term development.

Economic growth is also abated as the capital-labor ratio is dwindled by capital flight. Collier (2001) and Gusarova (2009) revealed that as the capital-labor ratio declines, so does the output level and the productivity of capital. Debajyoti (2006) also supports this finding and adds that the additional effects of capital flight on other physical effects such as redistributive taxation. The African Economic Outlook (AEO, 2012) report states that, if flight capital was saved and spent in the local economy of the country of origin, it would increase income per capita and help to reduce poverty.

Investigating the determinants of investment, Lesotho (2006) employed the OLS multiple regression technique with variables such as credit to investors and actual interest rate. Discoveries from the study shown that real or actual interest rate affects investment positively

and significantly. Other variable(s) do not influence investment in the short run as they show insignificant result.

Bljer and Khan (1984), Balassa (1988),Greene and Villanueva (1991), Skare and Sinkovic (2013), Sneessens (1987), Khan & Kumar (1997), Paresh & Russell (2011), Spiegel (2012), Stevens (2003), Stiglitz (2011), Summers (2000), Jayaraman (1996) , Skully (1997), Duncan (1999) and Weder (1998) carried out stochastic investigations on the factors. Earlier studies showed that private investment tendencies are primarily influenced by the profit motive plus other factors such as wage rate, real exchange rate policies, and raw material costs, rate of inflation and appropriate pricing of capital, labor and land.

2.3.2 Effects of Capital Flight on Domestic Investment: Evidence from Emerging and Developing Economies

Empirical studies by: Maku and Atanda (2012), Ndiaye (2007) all found indirect relationship between capital flight and investment. They find that as more capital is fled abroad and stored or invested, the available capital supply is reduced domestically, and the direct and indirect reductions in domestic investment size are concentrated. For example, in Nigeria and Angola, evidence suggests that capital flight reduced investment by US$10.7 billion and US$3.6 billion per year, respectively in the period 2000 to 2008 (African Economic Outlook, (2012). The report also shows that a decline in the stock of fled capital in Africa by a reasonable amount would help increase the ratio of domestic investment to GDP from 19% to 35% (Fofack & Ndikumana, 2010).

Furthermore, Ndiaye (2007)'s econometric estimates for countries in the Franc Zone, during the period 1970 to 2005, also indicate that capital flight significantly. Domestic investment can be reduced indirectly as capital flight also dwindle the taxable government revenue and income (Khodaei, 2012; Saheed & Ayodeji, 2012). Tax-Depressing Thesis by Forgha (2008) reduces available income for government investment. Ndiaye states that this reduction or loss in public investment consequently affects private investment.

When capital flight occurred in an economy, it indicates the possibility of future economic failures such as increases in the level of external indebtedness. This possibility of economic maladies is evaluated as part of the cost to domestic investment which causes domestic investors to become overcautious as to reduce.

Also, theoretical and empirical research has identified capital flight as a strong contributor to the reductions in the growth rate of an economy. Corroborative evidence for this negative causality has been identified in several countries including Indonesia (Wahyudi &Maski, 2012), Nigeria (Ajayi, 2012; Umoru, 2013; Osu, Amamgbo & Adeosun 2012), Iran (Khodaei

2012), Cameroon (Forgha, 2008), Philippine (Beja, 2007) and other developing and transition countries (Gusarova's, 2009).

Estimates of this invesre relationship show that China lost 10.2 per cent of GDP (US$109 billion in 1999); South Africa lost an average of 9.2 per cent of GDP (US$13 billion in 2000); Indonesia lost 6.7 per cent of GDP (US$14 billion in 1997) due to capital flight (Kapoor 2009) and Chile lost 6.1 per cent of GDP (US$4.7 billion in 1998). Additionally, Forgha's (2008) study shows that a one per cent increase in capital flight retarded economic growth by 0.0617 per cent ceteris paribus. The trends in these findings are also established for 139 developing and transition countries for the period 2002 to 2006 by Gusarova (2009). The study revealed that a one per cent increase in capital flight led to a fall in economic growth by 0.14 percent for the period.

This fall in the growth rate occurs via the loss in resources, reduction in productivity and lower investment (Saheed & Ayodeji, 2012; Kapoor, 2009; Gusarova, 2009; Forgha, 2008; Ndiaye, 2007; Debajyoti, 2006). Capital flight cause the increase in transfer of domestic capital and resources abroad, the level of demand for goods and services and thus local production is reduced.

Moreso, the decline in the taxable income reduces the potential revenue generating power of the government (Forgha, 2008) and the resources to finance government expenditure and thus the rate of growth in an economy. Capital flight also impair sustainable development by causing over-reliance on external resources such as aid that are useful to replace the gap left by fleeing domestic capital (Kapoor, 2009). Particularly, the inability of local firms to repay external debts may force them to lay off workers, causing unemployment and a further decrease in real output.

Elbadawi (1996) confirmed the consequence of rise in price on increase in size of a country and government expenditure on investment. The study observed that investment stimulates economic growth while government expenditure spurs investment.

On the basis of empirical consideration, De-gregorio (2009) suggested that in developing countries, investment is determined mainly by the level of interest rate, government expenditure, credit available for investment and exchange rate.

Skully (1997) examine Fiji and other countries opined that the availability of capital at competitive real interest rates was not a challenges for private investment. Thus, the study concluded that public sector borrowings crowding out private sector funding was not a problem in Fiji.

Toulaboe (1997) in his study of 86 developing countries examined data on terms of trade, real exchange rates, property rights and civil liberties and concluded that factors like the quality of physical and human infrastructure and credit availability exert important influences, while instability in the investment climate. Employing the changes in real exchange rates as an exogenous variable in regression analysis, Jayaraman (1996) carried out cross-country analysis.

Weder (1998) examined twenty-one SSA countries using data on institutional factors is of relevance here. The institutional factors used by Weder (1998) were primary data on annual ratings of the following factors: (i) quality of bureaucracy; (ii) the rule of law; (iii) policy surprises; (iv) credibility of announcements; (v) extent of availability of information on new rules; (vi) degree to which business can participate in making new rules; (vii) predictability of judiciary enforcement; (viii) theft and crime; (ix) security of property rights; and (x) frequency of corruption. All indicators are rated from 1 (worst) to 6 (best). Data on (i) and (ii) were drawn from a private firm study on international country risks. Others from (iii) to (x) were drawn from the data collected by the World Bank and University of Basel. These are

based upon private sector surveys commissioned in 73 countries in Africa, Asia and Latin America in preparation for the World Development Report (1997). As these data relate to a short run, a panel data regression analysis was found more fitted for the 21-country study (Weder, 1998). The study (Weder1998) concluded that factors (vii), (viii), (ix) and (xi) are significant.

Damulira (2010) examined a sample of 15 countries in sub-Saharan Africa during the period 1980-2008. Three estimation techniques namely random effects, fixed effects and bond dynamic panel estimation were used to test for the influence of local private investment on economic growth, and to test for consistency and robustness to different estimation methods. The empirical proof for Sub-Saharan Africa implies that economic growth is strengthened by stable economic environment influenced either directly or indirectly by sound macroeconomic policies. Actually, the proof reveals that real GDP growth per capita is directly influenced by economic policies that increase the rate of private domestic investment, public investment, and encourage growth in labor force through development of human capital, accelerating the volume of exports and providing credits for investment in the private sector. Therefore, to improve the region's growth performance, nations ought to look for ways to increase the rate of private investment.

Nenbee and Medee (2011) employed error correction model and the arcane approach of vector auto regression. The results show that the response of GDP to standard advancement in government expenditure on economic in Nigeria is indirect in the immediate year. They recommend that government should stimulate efficient distribution of pertinent resources by increasing private sector involvement as well as privatization and commercialization.

Ghazali (2010) examines the interconnection between local private investment and increase in size of a country in Pakistan over the period 1981 to 2008.

Greene and Villannera (1991) performed an empirical research on 23 countries and discovered that public investment on infrastructures complements private investment. Though, it should be noted that there is a limit for domestic savings, in some cases, public investment would cause a critical restriction of private investment.

On the other hand, Hatano (2010), estimating an error correction model, confirms the crowding-in effect of public investment on private investment whereas Balassa (1988) in his research of 30 countries illustrated that there is an inverse relationship between private investment and public investment. Munnell (1990) utilized estimates of both gross state product and private inputs of capital to create estimates of public capital stocks for 48 countries over the 1970-1986period. The country-by-country data was utilised to estimate the production functions and concluded that overwhelming reasons exist to conclude that data on public capital has a direct implication on employment, private output and investment. Munnell's estimation of the relative impact of public investment was lesser than the estimation made by Aschauer.

2.3.3 Effects of Capital Flight on Domestic Investment from Nigerian Economy.

Anfofun (2005) examined the aggregate elements of investment in Nigerian economy. Results show that inflation, exchange rate, debt burden, Coup d'etat and political crises negatively influence investment. The negative relationships attest to the major reasons why investors do not have confidence in Nigeria investment climate and such investors are scared away.

Adegbite and Adetiloye (2013), Saheed and Ayodeji, (2012) show that inverse connection between local investment and fled capital occured via various means. Firstly, capital flight leads to the loss of resources as capital is transferred abroad. This loss of locally available

capital directly impaired the desire for domestic investment by private individuals and hence the size of local domestic investment. The lost resources fled abroad also impaired domestic capital, which could have been saved in the financial system locally. Thus, the resources of banks become smaller inhibiting the banks' ability and willingness to provide credit for the private sector to finance domestic investment (Saheed & Ayodeji, 2012 and Ndiaye, 2012). The private sector credit is very low and lead to a more noteworthy factor as longer term investments are totally improved by domestic forces rather than external sources (Adegbite & Adetiloye, 2013).

Omoke and Ugwuanyi (2010) examine relationship between money supply, inflation and investment in Nigeria using Granger Causality tests. Results suggest that price stability can contribute toward rise in the level of investment. The study found that major factor inluencing investment were real output, inflation, monetary aggregates and exchange rates. This study never considered the role government expenditure plays in the determination of investment level.

Mouyiwa (2005) examined the linkage between inflation rate and investment using panel co-integration approach and a variance decomposition. The result of the study was a negative relationship between inflation rates and investment.

Using a data from Nigeria, Ikhide (2004) conducted an empirical study of external shocks, savings and investment. The econometric result indicated that growth of real income, increase in public expenditure and exchange rate, openness of the economy and high savings have positive effect on investment. Rising inflation and high interest (lending) rates equally impede investment in Nigeria.

Bogunjoko (1998) assessed the non-public and public investment connectivity, progression and strategy restructurings in the Nigeria economy. The study employed the VAR approach to accelerate as well as project inter-temporally, private investment response to its major

shocks namely, public investment, domestic credit as well as output shocks. The results of the VAR illustrate that government strategy creates sustainable growth of output, stable public investment and encourage the availability.

Onodugo (2014) investigate the relationship between non-public and public investment in Nigeria. The study isolated expenditure on infrastructure (which is an expenditure on social service which does not compete with private sector investment) from expenditure on real sectors e.g. agriculture, manufacturing and construction, which competes with private investment. Social services crowd in private sector investment whereas expenditure on real activities such as agriculture, manufacturing and construction crowd out private sector investment. This implies that the private sector is in a good position for investment in agriculture, construction and manufacturing.

Furthermore, the result showed that capital expenditure on agriculture directly affects investment whereas capital expenditure on education as well as health exerts direct influence on private investment.

2.4. Summary of Empirical Literature

Table 2.4.1: DEVELOPED COUNTRIES

S/N	AUTHOR	TITLE	METHODOLOGY	RESULT
1	Balassa (1998)	The lesson of East Asian development	Spatial Econometrics Model	The result showed that agglomeration economics (including road network improvements) are important in industrial location decision making
2	Blejer and Khan (1984).	public policy and non private investment	Two Stage Least Square	The findings indicated that the composition of public expenditures, contrarily to the level, had substantial influence on size of the economy. non private consumption wane adversely but non private investment has a direct impact on growth.
3	Clark, (1993)	Cross-Country Evidence on Long Run Growth and Inflation	Pooled Panel Method	the study finds out that increasing public expenditures involves crowding-out effect on private investment.
4	Cozier & Jeromy (2003)	The Inflation and Productivity Relationship in Poland	VECM and Granger Causality Test	The empirical findings indicated that a bivariate relationship between productivity and inflation is spurious.
5	Debajyot (2006)	Growth and Redistribution in Presence of Capital flight	VECM	The result showed that liberalizing the capital account positively affects growth only after a

				country has attained a certain level of economic growth.
6	Dutta, 2011	Financial Development and Capital Flight	ARDL	outcomes show that political environment index have a significant and positive effect on capital flight
7	Khan & Kumar (1997)	Public and Private Investment and Process	TSLS	Result showed that private investment and human capital variable has a positive coefficient that is not statistically significant.
8	Lesotho (2011)	An investigation of the determinants of private investment	Multiple Regression	The study revealed that real interest rate affect investment positively and significantly.
9	Paresh & Russell (2011)	The effect of Inflation and Real wages on Productivity	Panel Unit Root and Panel Cointegration framework	The results were robust and good for decision making

Source: Author's Compilation, (2017)

Table 2.4.2: EMERGING AND DEVELOPING COUNTRIES

S/N	AUTHOR	TITLE	METHODOLOGY	RESULT
10	Maku, and Atanda (2012)	Determinants of economic growth	ARDL	The result indicated that negative relationship between exist investment and capital flight
11	Ajayi (2012)	Capital Flight and Nigeria Economic Growth	Multiple Regression	The result indicated that indirect connection occur between growth in size of the economy and capital flight
12	Aysam (2004)	How to Boost Investment in the MENA Countries	Co-integration Techniques	The result showed that almost all the explanatory variables exhibit a significant impact on investment while higher interest rate (r) appears to exert a negative effect on investment.
13	Barro, (1997)	Determinants of economic growth	P P Method	Outcomes display that there is secondary connection between progression and the early level of real per capital GDP and political freedom has only a weak effect on growth but there is some indication of a nonlinear relation.
14	Blej & Khan (1984).	Public policy and non-public investment	Two Stage Least Square	The results indicated that the composition of public expenditures, contrarily to the

				level, had significant consequence on size of the country.
15	Clark, (1993)	Cross-Country Evidence on Long Run Growth and Inflation	Pooled Panel Method	the study finds out that increasing public expenditures involves crowding-out effect on private investment.
16	Damulira (2010)	The influence of non-public local investment on economicgrowth	Random effects, Fixed Effects and bond Dynamic Panel Estimation	Theempirical proof for sub-Saharan Africa implies that economic growth is strengthened by stable economic environment influenced either directly or indirectly by sound macroeconomic policies.
17	De-gregorio (2009)	Global Confidence Crisis-The Value of Waiting and the Coordination Failure Revisited	Cointegration Techniques	The result showed that the exogenous variables have a significant effect on investment. However, higher interest rate seems to impair negatively on investment.
18	Dewan, Hussein & Morling (1999)	Modeling Inflation Processes in Fiji	UECM	In the light of the results, the paper invites the Fiji government to change the element of government expenditures by giving high preference to the investment with careful arbitrage between public and private expenditures.

19	Elbadawi (1996)	Interest rate and Economic Growth in Africa	VECM	The study revealed that investment stimulates economic growth while government expenditure spurs Investment and interest rate can deterred it..
20	Emeagwali (2000)	The flight of Financial Capital from Africa	ECM	The quantitative results reveal that large capital outflows from Africa is accounted for by fiscal deficit, political instability, inflation, interest ratedifferential and external debt servicing GDP ratio.
21	Ghazali (2010)	Thecausalrelationship betweenprivate domesticinvestmentand economic growth(GDP) in Pakistan	Causality Method	The outcomes displayed thatthere is abidirectional causality between private domestic investment andeconomic growth; increased economic growth encourages large private domestic investment, and vice versa
22	Greene & Villanueva (1991)	PrivateInvestment in DevelopingCountries	ARDL	The results of the study revealed that the interest rate liberalization and grossdomestic product jointly accounted for about 78% of the variation in the level of bank savings deposits in
23	Gusarova (2010)	the impactof capital flight ongrowth of real GDP	Error Correction Mechanism	The results showed that as the capital to labour ratio declines so does the productivity of

				capital and the levels of productivity.
24	Hatano (2010)			investment on private investment
25	Kapoor (2010).	Illicit Financial Flows and Capital Flight.	ARDL	the additional effects of capital flight such as human capital investments redistributive and taxation also influence long term growth.
26	Khodaei (2012)	The Calculation of Capital Flight and its Effect on Macroeconomic Variables in Iran.	ARDL	The level of domestic investment is also reduced indirectly as capital flight also lowers the taxable income and government revenue
27	Munnell (1990)	How Does Public Infrastructure Affect Regional Economic Performance	VECM	The data appears overwhelming that public capitalhas a direct effect on investment, employment and privateoutput
28	Ndiaye (2007)	Impact of capital flight on domestic investment in the Franc Zone.	VECM	The result indicated thatnegative relationshipbetween investment andcapital flight
29	Nenbee & Medee (2011)	The response of GDP to standard improvements in federal government expenditure(FGE) in Nigeria	TheError correctionmodel and the Arcane Approach of Vector auto regression	The results reveal that government spending in Nigeria is indirect in theshort-run. This meansthat FGE has no effect on GDP in the long-run.
30	Ndikumana & Boyce (2013)	Official debt and PrivateAssets. AnalyzingCapital Flight from Sub-SaharanAfricanCountries	GMM estimation and instrumental variable approach	The result show a debt overhang effect, as increases in the debt stock spur additional capital flight in later years. In addition to

				policies for recovery of looted wealth and repatriation of externally held assets
31	Ndikumana & Fofack (2008)	Capital flight repatriation: Investigation of its potential gains for Sub-Saharan African countries	ARDL	The report also states that a inreduction inthe stock of capital flight in Africa by a quarter wouldhave increased the ratio of domestic investment to GDP from 19% to 35%
32	Nkurunziza (2012)	Illicit Financial Flows: A Constraint on Poverty Reduction in Africa.	Multiple Regression Analysis	The result indicated that negative relationship between investment and illicit financial flows.
33	Jayaraman, T.K. (1996)	Private Investment and Macroeconomic Environment in the South Pacific Island Countries	GMM	The results showed that private investment in six Pacific Island countries examined have a statistically significant indirect relationship between private investment.and the variability in the real exchange rate.
34	Johnson (2004)	The Implications of Covered Interest Parity for Short-term Financing: Testing some Underlying Hypotheses	GMM estimation	The study validate portfolio hypothesis which state how risk-averseinvestors canbuildportfolios in order to optimize or maximize expected returns given a level of market risk.
35	Muhammad & Mohammed (2004)	DeterminantsofInterest RateSpread in Nigeria: AnEmpirical Investigation	Multiple Regression	The results indicate that interest rate is positively determined by the public investment

				and size of economic growth while it is invervely affected by increase in the price level. The highly significant and positive coefficient of economic growth confirms the accelerator principle in Egypt while that of public investment outlines the significant role of government in laying down infrastructure to crowd
36	Osu, Amamgbo & Adeosun, (2012)	Examining theeffect of fled capital on the economy of a developing nation	ARDL	The result indicated that adverse connection between size of economy and capital flight
37	Saheed & Ayodeji (2012)	effect ofCapital Flighton Exchange Rate and Economic Growth in Nigeria.	VECM	The result indicated that negative relationship between investment and capital flight
38	Sajid and Sarfraz (2008)	Investigation of causal relationship between investment and exchange rate	VECM	The result showed that there is long-run as well as a short run equilibrium relationship between them. However, the study did not profer result on the impact of exchange on investments.
39	Skully (1997)	Interest rate and private investment in Fiji	ECM	The findings reveal that availability of capital at competitive real

				interest rates was not a problem for non-public investment.
40				
41	Toulaboe (2011)	Actual rate of exchange Misalignment and Growth size in Developing Countries	VECM	The result showed that credit, availability and the quality of human and physical infrastructure are important factors causing uncertainty in the investment environment
42	Taiwo & Abayomi (2011)	The trends and impact of government spending on growth rates ofreal GDP in Nigeria	The Ordinary Least Square (OLS) technique.	The results show that there is a positive connection between regular and physical expenditure of government and real GDP.
43	Umoru (2013)	Theimpact ofcapital flight ondomestic investment in Nigeria	ARDL	The results show that a 1%increase in capital flight induced a1.83%decline in domestic investment for the period of 1980 to 2010
44	Wahyudi & Maski (2012)	Causality between Capital Flight and Economic Growth: A Case Study Indonesia.	Causality Method	Capital flight has been identified as a threat and has inverse relationship between scarce financial resources, domestic resource allocation, monetary aggregates and macroeconomic objectives of a country.
45	Welder (1998)	Institutional factors and Economic Growth	Cross-country Regression	The study (Weder1998)

			analysis	concludes that factors (vii), (viii), (ix) and (xi) are highly significant.

Source: Author's Compilation, (2017)

Table 2.4.3: NIGERIAN EMPIRICAL STUDIES

S/N	AUTHOR	TITLE	METHODOLOGY	RESULT
46	Adetiloye (2011)	Capital Flight and Investment in Nigeria in the Era of Financial Globalization	ECM	Fled of capital has indirect but inconsequential effect on domestic investment in Nigeria.
47	Adegbite & Adetiloye (2013)	Effectof capitalflight on domestic investment	VECM	Financial globalization in relation to Capital flight has a negative relationship with domestic investment.
48	Adesoye (2012)	The effect of capitalflight on domesticinvestment in Nigeria.	ARDL	Theresults show that a 1%increase in capital flight induced a 2% decline in domestic investment for the period.
49	Adofu, I (2010)	Accelerating Economy Growth in Nigeria: The Role of FDI	OLS	Foreign Direct Investment (FDI) has substantial effect on Economic Growth in Nigeria during the period under study.
50	Agu (2006)	capital flight and domestic macroeconomic policy in Nigeria	Micro Portfolio Management Model	The result shows that investors generally avoid these risks by moving their assets

				from the domestic economy to other economies where systematic risk is expected to be lower. Portfolio theory therefore encourages capital mobility and heterogeneous risk preferences.
51	Ajaikaiye (2002)	Economic Development in Nigeria. A Review of Experience During 1980s	OLS	The result shows that irrational economic planning has indirect impactonthe economy
52	Ajayi (2005)	Managing capital flight: Issues and challenges.	ARDL	The findings suggest that the one period lagged capital flight and the other explanatory variables excluding the rate of exchange and domestic political environment index have a significant and positive effect on capital flight
53	Ali & Mshelia (2007)	Investment and Nigeria's Economic Growth	VECM	The findings indicate that domestic investment has direct relationship with economic growth.
54	Anfofun (2005)	The macroeconomic determinants of investment in Nigeria	ARDL	The results showed negative relationships attest to the major reasons why investors do not have confidence in Nigeria investment climate and such

				investors are scared away.
55	Ayadi (2008)	capitalflight and economicgrowth in Nigeria	Error Correction Model (ECM)	
56	Bakare (2011)	The contributing factor and rolesof capital flight in Nigeria]economy	Auto Regressive Distributive Lag (ARDL)	The result showed that capital flight has indirect and significant effect on economic development. The CUSUM and CUSUMSQ tests showed evidence of long run stability of the parameters of the model.
57	Bogunjoko (1998)	the non-public and public investment nexus, size and policy reforms	VAR Approach	The results of the VAR illustrates that government strategies that create sustainable growth of output, stable public investment and encourage the availability of domestic credit to the private sector will support investment.
58	Ekpo (1995)	The causality between non-	ECM	The result showed

		private and private investmentin Nigeria		that capital expenditure on agriculture directly influence investment whereas capital expenditure on education as well as health exerts direct influence on private investment.
59	Ikhide (2004)	external shocks, savings and investment	ARDL	The results indicate that growth of real income, high savings, exchange rate, openness of the economy, and increase in public expenditure have positive effect on investment.
60	Kolapo and Oke (2010)	determinants of capitalflight on the Nigerian economic growthprocess	ECM	The study reveals amongst others that capital flight does significantly impact adversely on the growth rate of GDP; capital control is insignificant in stimulating GDP growth rate and exchange rate controls are also weak

61	Iya & Aminu (2015)	An investigation into the impact of domestic investment and foreign directinvestment on economicgrowth	ECM	Foreign direct investment, domestic investmen impact directly oneconomic growth
62	Maku & Atanda (2012)	Determinant of stock performance	Multiple Regression	They found a significant result about the period of study
63	Mouyiwa (2005)	The link between inflation rate and investment	Panel co-integration approach and a Variance decomposition	The result of the study has negative relationship between inflation rate and investment.
64	Nnanna, Englama & Odoko, (2004).	Finance, Investment and Growth in Nigeria	Causality Test and ECM	The financial deepening has adverse effect on growth of the economy. However, the short run impact of financial development on economic growth is positive.
65	Obidike, Kalu,Odionye & Ogwuru (2015)	the impact of fled cappital on the economic development of Nigeria	Autoregressive Distributed Lag Model.	The result shows that capital flight has positive impact on the economy
66	Omoke & Ugwuanyi, (2010)	The relationship between inflation, money supply and investment	Johansen Co-integration and Granger Causality test	The study found that major determinants of investment were monetary aggregates, real output, inflation and

				exchange rates. This study never considered the role government expenditure plays in the determination of investment level.
67	Onodugo (2014)	the connection between public and private investment	Two-step Engel-Granger Approach	The effect of different types of public expenditure on private investment. The research isolated expenditure on infrastructure (which is an expenditure on social service which does not compete with private sector investment) from expenditure on real sectors e.g. agriculture, manufacturing and construction, which competes with non-public investment.

Source: Author's Compilation, (2017)

2.5 Research Gap

From the review of existing literature, it is obvious that capital flight has significant effects on domestic investment. However, some of the previous studies (Aysam, 2004; Anfofun, 2005; Maku & Atanda, 2012; Iya & Aminu, 2012; Umoru, 2013) focused solely on the impact of domestic investment on economic growth without recourse to the robust influence of capital flight on domestic investment. While others concentrated on the determinants of domestic investment (Skully, 1997; De-gregorio, 2009; Bakare, 2011; Mgbemena, Nwogwugwu & Kalu, 2015) with no mention of capital flight effects in the entire study.

Furthermore, previous studies in Nigeria (Ayadi, 2008; Ikhide, 2004; Adetiloye, 2011; Adegbite & Adetiloye, 2013) simply measured capital flight as an aggregate analysis which may partially reveal the disposition and reality of effects of these variables on domestic investment. Hence, this constitutes a measurement gap. A component analysis is required, and forms the crux of this study's contribution.

Evaluating capital flight using aggregate measures will give heterogeneous direction to a particular problem rather than giving a solution that is peculiar to a component, hence, component analysis is more adequate to capture the specific effects of economic variables on domestic investment.

In addition, there exist methodological gap from previous studies. Most of these studies employed Error Correction Method (ECM) and Vector Error Correction Method (VECM) in evaluating capitalflight on domestic or local investment. Though, capitalflight and domestic or local investments are lag variables which make VECMorECM unsuitable tools to appraise theeffect of capitalflight on domestic investment. Thus, the requirement for ARDL becomes

germane for the dimension of effectof capitalflight on domestic investment because capital flight entails the spillover of the past into the current. This phenomenon is typical of ARDL and the study needs to capture this effect in lag structure. ARDL successfully corrects the lapses often associated with ECM and VECM.

CHAPTER THREE

RESEARCH METHODS

This section presents the methods employed in conducting the research. It focuses on the procedure for establishing theeffects of apital flight on domestic investment in Nigeria. Section 3.1 focuses on the theoretical framework, 3.2 focuses on model specification. 3.3 discuss the a priori expectation 3.4 focuses on nature and source of data for the study. While 3.5 focuses on the estimation procedures.

3.1. TheoreticalFramework

The theoretical framework of this study is woven around the flexible accelerator theory in which capital stock is adjusted beyond its desired level and therefore was significantly extended by empirical testing to explain domestic investment based on increasing number of factors. The accelerator principle states that an increase in the rate of output of a firm will require a proportionate increase in its capital stock. Following the Koyk's method, the non-fixed accelerator adopts that the actual capital stock is a function of all past output levels with weights decreasing at geometric rate. Therefore, theKoyck model can be summarized as follows:

$$Ki = v(1-\lambda)(Yt + \lambda Yt_{-1} + \lambda^2 Y_{t-2} + \ldots\ldots X^n Y_{t-k}) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3.1)$$

$$Ki = \lambda Kit = (1-\lambda)vYi \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3.2)$$

$$Ki = \lambda Kit = (1-\lambda)vYi + \lambda Kti \ldots\ldots\ldots\ldots\ldots\ldots (3.3)$$

The process of rewriting equation (1) as equation (3) is called Koyck transformation. Net investment is the modification in the capital stock ($K_t - K_{t-1}$). Therefore, one can subtract K_{t-1} from both sides of the equation to get the expression of net investment:

$(K_t - K_{t-1}) = (1-ƛ)vYi-(1-ƛ)K_{t-1}$ (3.4)

The net investment $(K_t - K_{t-1})$ is called the distributed lag accelerator which is inversely related to the capital stock of the previous level.

Although, there are other theories related links with this study, the non-fixed accelerator theory is more central and relevant to this study because of its approach which recognizes capital stock as one of the important factors that influence domestic investment. Moreover, it established the fact that capital stock is a lag variable which governs the choice of selecting AutoRegressve Distributive Lag Model (ARDL) as a method of analysis.

3.2 The Model Specification

Following the in-depth review of literature and specifically the flexible-accelerator model, one can see clearly is that origin of an investment model for Nigeria is possible. The basic notion overdue flexible-accelerator model is that the greater the break between the prevailing stock of capital and the anticipated stock of capital, the higher a firm's level of investment i.e.

$$I = v(K_t^* - K_{t-1}) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3.5)$$

Where K_{t-1} = last period's capital stock K_t^* = desired capital stock, I = net investment, and v is adjustment coefficient.

Within the framework of the flexible accelerator model, exchange rate, inflation, political instability and other variables can be included as variables influencing I. Thus the model for domestic investment in Nigeria can be specified in a functional form as;

DOI = f(KF, EXCH, INFL, POL, SAV)……..(3.6)

Where:

DOI = Domestic Investment

KF = Capital Flight

EXCH = Exchange Rate

INFL = Inflation Rate

POL = Political Instability

SAV = Savings

3.2.1. Model Specification for Hypothesis one

The stipulated factors in the model do not have significant influence on domestic investment in Nigeria.

Hence;

$H0_1$: $\beta_0 = \beta_1 = \beta_2 = \beta_3 = \beta_4 \ldots\ldots\ldots\ldots\beta_5 = 0$ …… (3.7)

The premise that some of the exogenous variables stipulated above influences domestic investment is

HA_1: $\beta_0 \neq \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \ldots\ldots\ldots\ldots\beta_6 \neq 0$ …… (3.8)

This hypothesis will be achieved through the ARDL/Bound test to determine the short and long run dynamics.

The ARDL model specification is;

$$\mathbf{DOI} = \alpha + \sum_{i=1}^{\eta} \boldsymbol{\beta_i DOI_{t-i}} + \sum_{i=0}^{b_1} \boldsymbol{\theta_i KF_{t-1}} + \sum_{i=0}^{b_2} \mu_i \boldsymbol{INFL_{t-1}} + \sum_{i=0}^{b_3} \Omega_i \boldsymbol{EXCH_{t-1}} + \sum_{i=0}^{b_4} \boldsymbol{y_i POL_{t-1}} + \sum_{i=0}^{b_5} \mu_i \boldsymbol{SAV_{t-i}} + \mathbf{u_t} \quad (3.9)$$

The equation (3.9) is an ARDL model and inherently asymptotic. To overcome the problem of orthogonality assumption associated with large ARDL, the study obtained the optimum lag time and thus restated equation (3.9) based on lag 1, ignoring the current level of the regressors to arrive at:

$$DOI = \boldsymbol{\alpha} + \sum_{i=1}^{\eta} \boldsymbol{\beta_i DOI_{t-i}} + \sum_{i=0}^{b_1} \boldsymbol{\theta_i KF_{t-1}} + \sum_{i=0}^{b2} \mu_i \boldsymbol{INFL_{t-1}} + \sum_{i=0}^{b_3} \Omega_i \boldsymbol{EXCH_{t-1}} + \sum_{i=0}^{b5} \boldsymbol{y_i POL_{t-1}} + \sum_{i=0}^{b6} \mu_i \boldsymbol{SAV_{t-i}} + \mathbf{u_t} \quad (3.10)$$

Hence, the ARDL model (3.10) is augmented to a special case of unrestricted Error Correction Model (ECM) of the following form:

$$DOI = + \sum_{i=1}^{\eta} \boldsymbol{\beta_i} \Delta \boldsymbol{DOI_{t-1}} + \sum_{i=0}^{b_1} \boldsymbol{\theta_i} \Delta \boldsymbol{KF_{t-1}} + \sum_{i=0}^{b2} \mu_i \Delta \boldsymbol{INFL_{t-1}} + \sum_{i=0}^{b_3} \Omega_i \Delta \boldsymbol{EXCH_{t-1}} + \sum_{i=0}^{b5} \boldsymbol{y_i} \Delta \boldsymbol{POL_{t-1}} + \sum_{i=0}^{b6} \mu_i \boldsymbol{SAV_{t-i}} + \mathbf{u_t} \quad (3.11)$$

To conduct the bound test co-integration, one must confirm that the stochastic term in equation (3.II) is alike and autonomously circulated with constant variance and zero mean and that the model is stationary. To prove this, let's assume that the endogenous variable and exogenous variables in equation () to be y and x respectively.

$$Y_t = \beta_0 + \beta_1 Y_{t-1} + \beta_2 X_{t-1} + \mu_t \quad (3.12)$$

Increase equation (3.12) by lag 1 to have

$$Y_{t-1} = \beta_0 + \beta_1 Y_{t-2} + \beta_2 X_{t-2} + \mu_{t-1} \quad (3.13)$$

Substitute the value of Y_{t-1} in equation () and solve as follows

$$Y_t = \beta_0 + \beta_1(\beta_0 + \beta_1 Y_{t-2} + \beta_2 X_{t-2} + \mu_{t-1}) + \beta_2 X_{t-2} + \mu_{t-1} \quad (3.14)$$

Furthermore, increase equation (10) by an additional lag

$$Y_{t-2} = \beta_0 + \beta_1 Y_{t-3} + \beta_2 X_{t-3} + \mu_{t-2} \quad (3.15)$$

By substituting into equation (11) you have,

$$Y_t = \beta_0 + \beta_1(\beta_0 + \beta_1(\beta_0 + \beta_1 Y_{t-3} + \beta_2 X_{t-3} + \mu_{t-2}) + \beta_2 X_{t-2} + \mu_{t-1}) + \beta_2 X_{t-2} + \mu_{t-1}) + \beta_2 X_{t-1} + \mu_t \quad \ldots\ldots\ldots \quad (3.16)$$

Let's factor out the like-terms

$$Y_t = \beta_0 (1 + \beta_1 + \beta_1^2 + \beta_1^3 + \ldots) + \beta_2 (\beta_1 X_{t-2} + \beta_1^2 X_{t-3} + \ldots\ldots) + (\mu_t + \beta_1 \mu_{t-1} + \beta_2 \mu_{t-2} + \cdots +) \quad . \quad . \quad \ldots\ldots \quad (3.17)$$

$$Y_t=\beta_0\left[\sum_{i=0}^{\infty}\beta_1^i\right]+\beta_2\left[\sum_{j=1}^{\infty}\beta_1^i\ X_{t-(j+1)}\right]+\sum_{i=0}^{\infty}\beta_1^i\,\mu_{t-i} \quad (3.18)$$

Taking the expectation

$$Ey_t=\beta_0\left[\sum_{i=0}^{\infty}\beta_1^i\right]+\beta_2\left[\sum_{j=1}^{\infty}\beta_1^j\ X_{t-(j+1)}\right]+\mu+0$$

$$Ey_t=\beta_0\left[\sum_{i=0}^{\infty}\beta_1^i\right]-\beta_2\left[\sum_{j=1}^{\infty}\beta_1^j\ X_{t-(j+1)}\right]=\mu+0$$

$$Ey_t=\beta_0\left[\sum_{i=0}^{\infty}\beta_1^i\right]+\beta_2\left[\sum_{j=1}^{\infty}\beta_1^j\ X_{t-(j+1)}\right]=\mu$$

The term i = 0 1 converges to finite limit. That is, if all the roots lie in the unit interval, the ARDL represented in equation would be stable and the bound test to co-integration can be conducted. The results of the stability test are reported in subsequent section. The study can now move ahead and develop the restricted error correction model so as to obtain the equilibrium or adjustment parameter (ECM (-1)).

The long run dynamic equation can be stated as follows:

$$DOI_t = \beta_0 DOI_{t-1} + \beta_2 KF_{t-1} + \beta_3 INFL_{t-1} + \beta_4 EXCH_{t-1} + \beta_4 INFRA_{t-1} + \beta_5 POL_{t-1} + \sum_{i=0}^{b6}\mu_i SAV_{t-i} + w_t \quad (3.19)$$

Obtain the error term as

$$W_t = DOI_t - (\beta_1 KF_{t-1} + \beta_2 INFL_{t-1} + \beta_3 EXCH_{t-1} + \beta_4 POL_{t-1} + \sum_{i=0}^{b6}\beta_5 SAV_{t-i}) \quad (3.20)$$

Rename the error term W_t as ECM and restricts it to lag 1, and inserting it into the short run dynamic equation to get;

$$DOI_t = \beta_0 DOI_{t-1} + \beta_2 KF_{t-1} + \beta_3 INFL_{t-1} + \beta_4 EXCH_{t-1} + \beta_5 POL_{t-1} + \beta_5 SAV_{t-1} + ecm_{t-1} \quad (3.21)$$

The study now conducts the bound test to obtain the F-stat and x^2 and compares them with the Pesaran statistics both at lower bond I(0) and upper bond I(1). If the computed F-stat and x^2 – stat fall below I(0), there is no co-integration. If they fall in between I(0) and I(1), test is inconclusive but if they fall above I(1), then there is co-integration.

3.3.2 A Priori Expectation

This has to do with the theoretical expectations of each of the variables included in the model. This expectation has to do with the signs as well as the direction of the variables. It denotes the various ways in which we expect the explanatory variables to influence exogenous variable in the models.

Specifically, at O.O5level ofsignificance, all nullhypotheses would be disallowed if *p – values* < O.O5. A *p*– value is a quota that indicate the level of existing evidence against the (H_0) and the lower the p – value, the higher evidence exists against the null hypothesis.

Also, the null hypothesis would be rejected if adjusted R-square is lower than 0.60 and the calculated F-test (statistical table) is found to be greater than the critical F-test value at the level of significance.

Independent Variable	**Full Name**	**Expected Sign**
EXCH	Exchange Rate	-/+
KF	Capital flight	-
POL	Political instability	-
INFL	Inflation	-/ +
SAV	Savings	+

3.3.3 Model Specification for Hypothesis two

Individual components of capital flight has no specific effect on domestic investment in Nigeria. Capturing the specific effects of each variable included (in calculating KF through World Bank approach)on domestic investment is paramount. Thus

$DOI = f(\Delta EDEBT, G, F, N)$ (3.22)

Where,

$\Delta EDEBT$ = changes in external debt

G = current account balance

F = foreign direct investment

N = change in external reserve

$DOI = \alpha_0 + \beta_1 \Delta EDEBT + \beta_2 G + \beta_3 F + \beta_4 N + \mu$ (3.23)

$DOI = \alpha_0 + \beta_1 \Delta EDEBT + \beta_2 G + \beta_3 F + \beta_4 N + \varepsilon_t$ (3.24)

In order to test this hypothesis, the implication of the constants of each of the various variables is tested using the t- ratio.

3.3.4 A priori expectation

Independent Variable	Full Name	Expected Sign
$\Delta EDEBT$	change in external debt	-/+
G	current account balance	-/+
F	foreign direct investment	+
N	change in external reserve	-/+

3.3.5 Model Specification for Hypothesis three

Individual components of capital flight have no significant relationship with domestic investments in Nigeria.

$$DOI = f(\Delta EDEBT, G, F, N) \quad (3.25)$$

$$DOI = \alpha_0 + \beta_1 \Delta EDEBT + \beta_2 G + \beta_3 F + \beta_4 N + \mu \quad (3.26)$$

$$DOI = \alpha_0 + \beta_1 \Delta EDEBT + \beta_2 G + \beta_3 F + \beta_4 N + \varepsilon_t \quad (3.27)$$

The Granger causality denotes trend of interconnection between domestic or local investment and subset of capital flight stated in the model. The interconnection test equation for capital flight connect DOI is specified as;

$$DOI_t = \alpha + \sum_{i=1}^{\eta} \beta_i KF_{t-i} + \sum_{i=0}^{b_1} \theta_i InDOI_{t-i} + \Omega t \quad (3.28)$$

So also, the Granger causality test equation for DOI granger cause KF is specified as

$$KF_t = \alpha + \sum_{i=1}^{\eta} \beta_i DOI_{t-i} + \sum_{i=0}^{b_1} \theta_i InKF_{t-i} + \Omega t \quad (3.29)$$

Following the model specified above the granger causality method is adopted to capture the hypothesis.

3.3.6 Model Specification for Hypothesis four

There is no significant combined effect between FDI, energy infrastructure and domestic investment in Nigeria.

DOI = f(FDI, EnINFRA, EXCH) (3.30)

$DOI = \alpha_0 + \beta_1 FDI + \beta_2 EnINFRA + \beta_3 EXCH + \mu$ (3.31)

$DOI = \alpha_0 + \beta_1 FDI + \beta_2 EnINFRA + \beta_3 EXCH + \varepsilon_t$ (3.32)

The ARDL model specification is;

$$DOI = \boldsymbol{\alpha} + \sum_{i=1}^{\eta} \boldsymbol{\beta_i} DOI_{t-i} + \sum_{i=0}^{b_1} \theta_i FDI_{t-1} + \sum_{i=0}^{b2} \mu_i EnINFRA_{t-1} + \sum_{i=0}^{b_3} \Omega_i \, EXCH_{t-1} + u_t \quad (333)$$

The equation (3.9) is an ARDL model and inherently asymptotic. To overcome the problem of orthogonality assumption associated with large ARDL, the study obtained the optimum lag time and thus restated equation (3.9) based on lag 1, ignoring the current level of the regressors to arrive at:

$$DOI = \boldsymbol{\alpha} + \sum_{i=1}^{\eta} \boldsymbol{\beta_i} DOI_{t-i} + \sum_{i=0}^{b_1} \boldsymbol{\theta_i} FDI_{t-1} + \sum_{i=0}^{b2} \mu_i EnINFRA_{t-1} + \sum_{i=0}^{b_3} \Omega_i \, EXCH_{t-1} + u_t \quad (333)$$

Hence, the ARDL model (3.10) is augmented to a special case of unobstructed Error Correction Model (ECM) of the following form:

$$DOI = + \sum_{i=1}^{\eta} \boldsymbol{\beta_i} \, \Delta DOI_{t-1} + \sum_{i=0}^{b_1} \boldsymbol{\theta_i} \, \Delta FDI_{t-1} + \sum_{i=0}^{b2} \mu_i \Delta EnINFRA_{t-1} + \sum_{i=0}^{b_3} \Omega_i \Delta EXCH_{t-1} + \mathbf{u_t} \quad (333)$$

To conduct the bound test co-integration, one must certify that the error-term in format (3.11) is alike and autonomously spread with constant variance and zero mean and that the model is stationary. To prove this, let's assume that the endogenous variable and exogenous variables in equation () to be y and x respectively.

$Y_t = \beta_0 + \beta_1 Y_{t-1} + \beta_2 X_{t-1} + \mu_t$ (3.12)

Increase equation (3.12) by lag 1 to have

$$Y_{t-1} = \beta_0 + \beta_1 Y_{t-2} + \beta_2 X_{t-2} + \mu_{t-1} \quad (3.13)$$

Substitute the value of Y_{t-1} in equation () and solve as follows

$$Y_t = \beta_0 + \beta_1(\beta_0 + \beta_1 Y_{t-2} + \beta_2 X_{t-2} + \mu_{t-1}) + \beta_2 X_{t-2} + \mu_{t-1} \quad (3.14)$$

Furthermore, increase equation (10) by an additional lag

$$Y_{t-2} = \beta_0 + \beta_1 Y_{t-3} + \beta_2 X_{t-3} + \mu_{t-2} \quad (3.15)$$

By substituting into equation (11) you have,

$$Y_t = \beta_0 + \beta_1(\beta_0 + \beta_1(\beta_0 + \beta_1 Y_{t-3} + \beta_2 X_{t-3} + \mu_{t-2}) + \beta_2 X_{t-2} + \mu_{t-1}) + \beta_2 X_{t-2} + \mu_{t-1}) + \beta_2 X_{t-1} + \mu_t$$

..... (3.16)

Let's factor out the like-terms

$$Y_t = \beta_0 (1 + \beta_1 + \beta_1^2 + \beta_1^3 + \ldots) + \beta_2 (\beta_1 X_{t-2} + \beta_1^2 X_{t-3} + \ldots\ldots) + (\mu_t + \beta_1 \mu_{t-1} + \beta_2 \mu_{t-2} + \cdots +) \ .$$

. ….. (3.17)

$$Y_t = \beta_0 \left[\sum_{i=0}^{\infty} \beta_1^i\right] + \beta_2 \left[\sum_{j=1}^{\infty} \beta_1^i \, X_{t-(j+1)}\right] + \sum_{i=0}^{\infty} \beta_1^i \, \mu_{t-i} \quad (3.18)$$

Taking the expectation

$$Ey_t = \beta_0 [\sum_{i=0}^{\infty} \beta_1^i] + \beta_2 [\sum_{j=1}^{\infty} \beta_1^j \, X_{t-(j+1)}] + \mu + 0$$

$$Ey_t = \beta_0 [\sum_{i=0}^{\infty} \beta_1^i] - \beta_2 [\sum_{j=1}^{\infty} \beta_1^j \, X_{t-(j+1)}] = \mu + 0$$

$$Ey_t = \beta_0 [\sum_{i=0}^{\infty} \beta_1^i] + \beta_2 [\sum_{j=1}^{\infty} \beta_1^j \, X_{t-(j+1)}] = \mu$$

The term i = 0 1 converges to finite limit. That is, if all the roots lie in the unit interval, the ARDL represented in equation would be stable and the bound test to co-integration can be conducted. The results of the stability test are reported in subsequent section. The study can now move ahead and develop the restricted error correction model so as to obtain the equilibrium or adjustment parameter (ECM (-1)).

The long run dynamic equation can be stated as follows:

$$DOI_t = \beta_1 DOI_{t-1} + \beta_2 FDI_{t-1} + \beta_3 EnINFRA_{t-1} + \beta_4 EXCH_{t-1} + w_t \quad (333)$$

Obtain the error term as

$$W_t = DOI_t - (\beta_1 FDI_{t-1} + \beta_2 EnINFRA_{t-1} + \beta_3 EXCH_{t-1})$$

Rename the error term W_t as ECM and restricts it to lag 1, and inserting it into the short run dynamic equation to get;

$$DOI_t = \beta_1 DOI_{t-1} + \beta_2 FDI_{t-1} + \beta_3 EnINFRA_{t-1} + \beta_4 EXCH_{t-1} + ecm_{t-1} \quad (3.21)$$

The study now conducts the bound test to obtain the F-stat and x^2 and compares them with the Pesaran statistics both at lower bond I(0) and upper bond I(1). If the computed F-stat and x^2 – stat fall below I(0), there is no co-integration. If they fall in between I(0) and I(1), test is inconclusive but if they fall above I(1), then there is co-integration.

3.4. Nature and Sources of Data

The type of data used for this research work secondary data, sourced from the World Development Indicator (WDI), theCentral Bank ofNigeria's StatisticalBulletin of various issues covering 1980 to 2015. The variables whose data were used include:

a. Exchange rate (EXCH) which can be supported or corroborated from alternative bases such as Statistical Bulletin of various issues of Central Bank of Nigeria's.

b. Inflation rate was found from the CBN, Statistical Bulletin (2015) and International Financial Statistics (IFS).

c. Domestic investment which is also contained in the World Bank data base.

d. Saving was obtained from CBN, Statistical Bulletin (2015).

e. External Debt obtained from CBN, Statistical Bulletin (2015).

f. For the purpose of this study, the World Bank method was employed to measure capital flight.

3.5. Estimation Procedure

Defining the long run connection between variables is important as it enables the understanding of the impacts they have one against the other. However, each endogenous variable is explained by its lagged, or past values and the lagged values of all additional dependent variables will removes the use of some independent variables in the model (Gujarati, 2004). Since the methodology allows comprehensive information about the dynamics of the interactions and long-term trends are easily explained. This enables shocks within the regressions and the system to be easily seen.

The study will employ the bounds testing Autoregressive Distributed Lag (ARDL) test to scan the short and long run interactions between local investment and fled of capital. Pre-test is important before using the ARDL to appraisal the ErrorCorrectionMode (ECM) and long run parameters, necessary pretest – both unit root and co-integration tests will be conducted to justify the applicability of ECM .The unit root test serves two purposes. First is to investigate whether or not exchange rate, government external debt, political instability, inflation and other variables are stationary. This helps to determine the underlying properties of the process that generates our time series. That is, to investigate whether each variable in equation (1) is stationary. Second is to found the order of combination. This investigation is necessary to ensure stability in subsequent econometric modeling. To carry out a for unit roots, the DickeyFuller (DF) and Augmented DickeyFuller (ADF) tests were used while using equation 3.29 and 3.30 (below) respectively, to test for the null hypothesis of non-stationary (i.e. presence of unit roots) of the series X_t.

$$\Delta X_t = \beta_0 + \beta_1 X_{t-1} + \mu_t \quad (3.29)$$

$$\Delta X_t = \beta_0 + \beta_1 X_{t-1} + \sum_{i=1}^{n} \alpha_i \Delta X_{t-1} + E_t \quad (3.30)$$

Where μ_t and $E_t \sim NID(0, \sigma^2)$ and X_t represents each series of DOI, INFLA, KF, EXCH, and SAVS in equation (4). The t-statistics obtained are compared with the special critical value constructed by Dickey Fuller (1979, 1981) and Engle and Granger (1987, 1990).

The co-integration among time series variables suggests that series may behave in different means in the shortrun [being either I(O) or only I(I)], then that they will join towards joint symmetry behaviour in the long run. The study adopts general-to-specific modeling approach guided by the short data span and Schwarz Information Criteria (SIC) respectively to select a maximum lag order for the conditional ARDL bound test. The procedure codified in Peseran et al. (1997) was followed. At first, an OLS regression for the first alterations portion of equation (5, see below) was estimated and then tested for the combined implication of the strictures of the lagged level variables when added to the first regression. This OLS regression in first differences is of no direct interest to the bounds co-integration test (Peseran et al., 1997).

The ARDL is used to appraise the long and short run connection. Approach is the appropriate technique for this study for three reasons. First, adopting the bound testing approach means that a pre-test such as unit root may not all be integrated of same order. That is all regressors can either be I(0), or purely I(1) so long as they are mutually co-integrated. Secondly, the long-run and short run (parsimonious ECM) parameters of the models can be simultaneously estimated. Thirdly, compare to other multivariate co-integration methods (for example, Joahansen and Juaselius, 1990), the ARDL test is a simple technique because it allows the co-integration relationship to be estimated by OLS once the lag order of the model is identified. Essentially, the bounds test suggests that the variables of interest put in the framework (the model) are bound unruffled in long-run. Defining η as the maximum number of lag and k equals the number of parameter in each equation, then the test estimates $(\eta + 1)^k$ number of regressors in order to find the best lag length for variables.

CHAPTER FOUR

PRESENTATION OF DATA, ANALYSIS AND DISCUSSION

This chapter presents the results of the study on theeffects ofcapital flight on domestic investment in Nigeria. It estimates the models specified in chapter three using Econometric method (E-View 9) program. The estimated results are summarized in tables and a critical analysis of the results is done after each table. However, before fitting the relevant data into the models, their descriptive statistics were first computed and level of stationarity determined accordingly.

4.1 The Unit Root Test

The secondary data employed for the study were exposed to unit root test to determine their stationarity in order to avoid the problem of spurious regression. Table 4.1 below shows that the ADF statistic for all the variables. It is relevant to theme the variables stated in the model to stationary tests of times series analysis. If the data is differenced and found to be stationary, then they could be integrated of order one or greater. Otherwise, a non-stationary series may exist. If $n = 0$, the resulting I (0) represents a stationary processes. If the time series are integrated of order I (0) or I (1), then the ARDL bound testing can be done. The unit root test was evaluated using Augmented Dickey-Fuller (1981) for the variables stated in the study. The outcomes of the stationarity test are précised in the Table 4.1. The result revealed that the variables are of I(0) and I(1) which favoured the choice of ARDL as a method of analysis. From the table 4.I, it can be seen that the variables like DOI, EXCH, INFLA, POL, are not stationary series since they failed the ADF test at I(0) level. For this reason, they were subjected to ADF test at I(1) level and they became stationary.

Table 4.1 Unit Root Test Result for the variables

Series	ADF-Stat	5% Critical value	P-Value
DOI(0)	-1.426	-2.951	0.558
DOI(1)	-11.766	-2.951	0.000
EXCH(0)	-0.135	-2.948	0.938
EXCH(1)	-6.033	-2.948	0.000
INFLA(0)	-3.097	-3.544	0.122
INFLA(1)	-5.665	-3.548	0.003
KF(0)	-4.017	-3.544	0.017
POL(0)	-2. 082	-3.544	0.537
POL(1)	-5.742	-3.548	0.002
SAV(0)	-4.017	-3.544	0.008
EXTD(0)	-5.733	-3.544	0.002
F(0)	-3.519	-3.544	0.053
F(1)	-8.183	-3.548	0.000
G(0)	-4.017	-3.544	0.017
N(0)	-4.558	-3.544	0.005

Source: Author's Computation (2017)

Since the order of combination has been established, hypotheses testing can be done with different methods that suite each hypothesis.

HYPOTHESIS 1

The stipulated economic variables specified in the model do not have significant influence on domestic investment in Nigeria

The outcome of this premise is presented in Tables 4.2.O, 4.2.I and 4.2.3 showing the factors influencing domestic investment in Nigeria. As earlier pointed out in chapter three, the first test carried out was a bound test, followed by long-run ARDL model, short-run ARDL model, stability test (which showcased a schematic representation of the Cumulative Sum (CUSUM) and the Cumulative Sum of Square) and other diagnostic tests.

Table 4.2.0 shows the results of Bounds testing. The result reveals that the calculated F-Statistics (9.28) is higher than the upper bound critical value (3.79) at 5% error level. Based on this, the study concluded that a long run co-integration relationship exists for the estimated ARDL models. Thus, the unacceptable premise of no co-integration is rejected. This implies Domestic Investment (DOI) and representative independent variables are co-integrated. This also means that for the periods studied, a sustained connection exist among the parameter stated in the model. Since bound testing is established in the test, then it follows that a non-spurious long run relationship exists and the error correction representation can be obtained. The result obtained by normalizing on LOI in the long run is reported in Table 4.2.1 while Table 4.2.3 presents the result of the short-run dynamic coefficients for the stability and diagnostic tests in order to capture hypothesis one.

4.2.0 ARDL BOUNDS TESTING

Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	9.285879	5

Source: Author Computation (2017)

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

Computed F-Statistic: 9.28	Lag (K) = 5
Critical Bound Value (5%)[5]	I(0): 2.62, I(1): 3.79

Source: Author's Computation, (2017)

Table 4.2.1Estimated Long Run Coefficients using ARDL Approach

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
DOI(-1)	-0.226229	0.123800	-1.827383	0.1009
DOI(-2)	0.424924	0.140750	3.018998	0.0145
DOI(-3)	-0.039060	0.121144	-0.322427	0.7545
DOI(-4)	-0.239229	0.134725	-1.775676	0.1095
KF	-0.228483	0.119839	-1.906583	0.0549
KF(-1)	-0.069067	0.029570	2.335699	0.0443
EXCH	0.001596	0.042873	0.037234	0.9711
EXCH(-1)	-0.148844	0.052742	-2.822094	0.0200
EXCH(-2)	-0.000693	0.049116	-0.014115	0.9890
EXCH(-3)	-0.093653	0.049456	-1.893682	0.0908
INFLA	0.049431	0.038877	1.271481	0.2354
INFLA(-1)	-0.015574	0.038348	-0.406117	0.6941
INFLA(-2)	-0.045027	0.041194	-1.093066	0.3028
INFLA(-3)	-0.026640	0.037984	-0.701361	0.5008
INFLA(-4)	-0.113628	0.045731	-2.484702	0.0347
POL	-13.81354	4.435482	-3.114326	0.0124
POL(-1)	9.060674	3.763272	2.407658	0.0394
SAV	0.121931	0.681860	0.178822	0.8620
SAV(-1)	-0.866088	0.427123	-2.027724	0.0732
SAV(-2)	-0.089806	0.339982	-0.264149	0.7976

SAV(-3)	-0.455128	0.425105	-1.070625	0.3122
SAV(-4)	1.741685	0.470215	3.704014	0.0049
C	9.153853	2.253820	4.061484	0.0028

R-squared	0.956703	Mean dependent var	8.847076
Adjusted R-squared	0.850867	S.D. dependent var	3.602869
S.E. of regression	1.391346	Akaike info criterion	3.667409
Sum squared resid	17.42259	Schwarz criterion	4.720907
Log likelihood	-35.67854	Hannan-Quinn criter.	4.016614
F-tatistic	9.039467	Dubin-Waton sta	2.129000
Prob(F-statistic)	0.000901		

Source: Author's Computation, (2017)

The long run approximation in the table bove displays that the ffect of immediate past of capital flight (KF(-1) on domestic investment is negatively related and significant at 5% level. A 1% increase in capital flight leads to approximately 6% decrease in domestic investment, all things being equal. However, capital flight into current period (KF) indicate that a negative relationship exists between local investment and fled of capital and significant at 5% level. The result of long-run ARDL model corroborates the non-fixed accelerator theory which hypothesizes that the greater the break between the current stock of capital and anticipated stock of capital, the larger a firm's level of investment which is also supported by the macroeconomic and governmental indecisions in unindustrialized nations, and the instantaneous presence of better investment chances in advanced countries, like wide array of financial instruments, political and economic stability, favorable tax climate. In Nigeria, however, some unscrupulous, corrupt leaders and bureaucrats usually siphon scarce capital resources from the country to advanced countries, and this siphoned capital reduces existing capital stock for domestic investment. Empirically, this leads to an inverse relationship between KF and DOI in Nigeria. This result corroborates the earlier research of Adetioye (2008). The implication of the non-significance of capital flight in relation to domestic investment is due to government inefficiency to implement appropriate macroeconomic policy that will depict any fall-out in economic system at a glance.

Essentially, the effect of exchange rate into three lagged periods (EXCH(-3) on domestic investment is negatively related, though, negligible. Domestic investment into the immediate past of exchange rate (EXCH(-1) also indicate positive effect and significant at 2% level. This is symptomatic of the impact of fled capital on LOI due to sharp drop in size of investment level in the Nigerian economy. Nigerian economy is strictly mono-cultural in nature, with land intensive agriculture, capital intensive replacing high labor intensive nature practices, domestic petty trading and over-reliance on import which often makes the economy to strive for foreign exchange. The latter often climb sharply the rate of exchange and grounds domestic investment by increasing the cost of doing business.

Considering the effect of savings, it has expected positive effect on domestic investment. Savings into four period lags indicate a positive relationship with DOI. A unit increase in saving leads to 17% increase in domestic investment and significant 1% level. However, a shift in savings into current period also shows a positive relationship with DOI and indicates that a unit rise in savings leads to 12% rise in DOI though not significant at 5% level. This is due to the fact that most savings in the system is being shifted outward either for investment or saving in the advanced countries' banks as a result of high returns on saving in such countries compared to low returns on deposits as is currently obtainable in certain low income countries.

Inflation into four period lags indicate negative effect on domestic investment and it is significant at 3%. The negative relationship indicates any 1% increase in inflation leads to 11% reduction in DOI. The shift in inflation into current period indicates that a 1% increase in inflation leads to 4% increase in DOI although not significant. Inflation is a concern to the investors, since changes in inflation affect various asset types in different ways. The combination of a bad economy with an increase in costs is bad for domestic investment because not all companies fare the same with inflation. Essentially, the problem of non-

significance of inflation in Nigeria is that domestic investment tends to be overstated in figures but in real sense, the inflation is wreaking havoc on earnings which have direct effect on investments.

Political instability in the immediate past indicates a positive relationship with DOI. However, shifting political instability into the current period shows a negative relationship exists between DOI and POL**.** A unit increase in POL will lead to a 14% reduction in domestic investment. This is in conformity with a priori expectation. The regression for the underlying ARDL equation fits very well at R^2 = a85%.

After establishing the long run connection, it is paramount to also estimate the short run dynamics in order to establish the speed of adjustment between DOI and other variables.

Table 4.2.2 Estimated Short Run Coefficients using ARDL Approach (Dependent variable; DOI)

Cointegrating				
Variable	Coeficient	Std. Eror	t-Statstic	Prob.
D(DOI(-1))	-0.361236	0.142490	-2.535165	0.0277
D(KF)	-0.022728	0.020574	-1.104664	0.2929
D(EXCH)	0.001067	0.044043	0.024228	0.9811
D(EXCH(-1))	0.015265	0.049277	0.309777	0.7625
D(EXCH(-2))	-0.095578	0.051873	-1.842550	0.0925
D(INFLA)	0.070823	0.038776	1.826464	0.0950
D(INFLA(-1))	0.050464	0.043178	1.168741	0.2672
D(INFLA(-2))	0.026791	0.039270	0.682218	0.5092
D(INFLA(-3))	-0.126300	0.047250	-2.673007	0.0217
D(POL)	-15.338213	4.440166	-3.454423	0.0054
D(SAV)	-0.509475	0.675658	-0.754043	0.4667
D(SAV(-1))	-0.053141	0.346911	-0.153184	0.8810
D(SAV(-2))	0.429919	0.435165	0.987946	0.3444
D(SAV(-3))	-1.773241	0.493931	-3.590059	0.0042
CointEq(-1)	-0.801673	0.182360	-4.396105	0.0011
Cointeq = DOI - (-0.0698*KF + 0.0831*EXCH -0.1970*INFLA -6.6567*POL -0.2323*SAV + 10.6455)				

Source: Author's Computation, (2017)

previous year's shock converge back to the long-run equilibrium in the current year.

The regression for the underlying ARDL model passes the stability tests alongside serial corelation, fuctional form misspecifiction, and non-normal errors and passed the heteroscedasticity test at 5%. The stability of error corrections model should always be subjected to graphical investigation (Pesaran, Shin & Smith, 1978). A schematic representation of the Cumulative Sum (CUSUM) and the Cumulative Sum of Square (CUSUMSQ) are also established. The cumulative sum (CUSUM) and cumulative sum of squares (CUSUMSQ) plots are shown in stability test 1 and 2 which indicate stability in the coefficients over the sample period.

Table 4.2.3 Breusch-Godfrey Serial Correlation LM Test

F-statistic	1.601965	Prob. F(2,9)	0.2540
Obs*R-squared	8.401045	Prob. Chi-Square(2)	0.1750

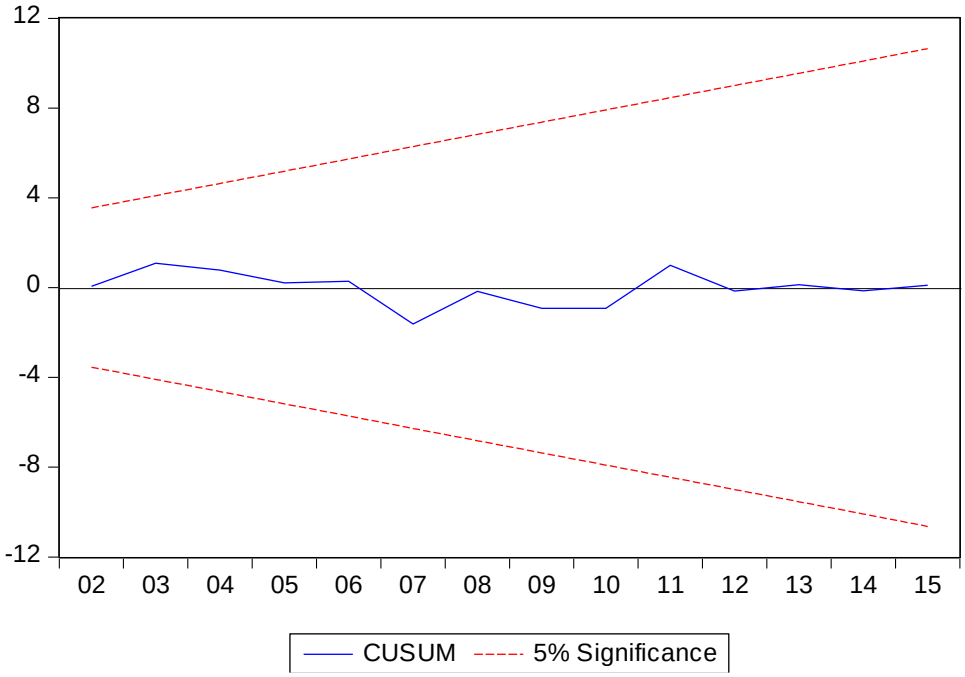
Source: Author's Computation (2017)

Table 4.2.4 Heteroskedasticity Test: Breusch-Pagan-Godfrey

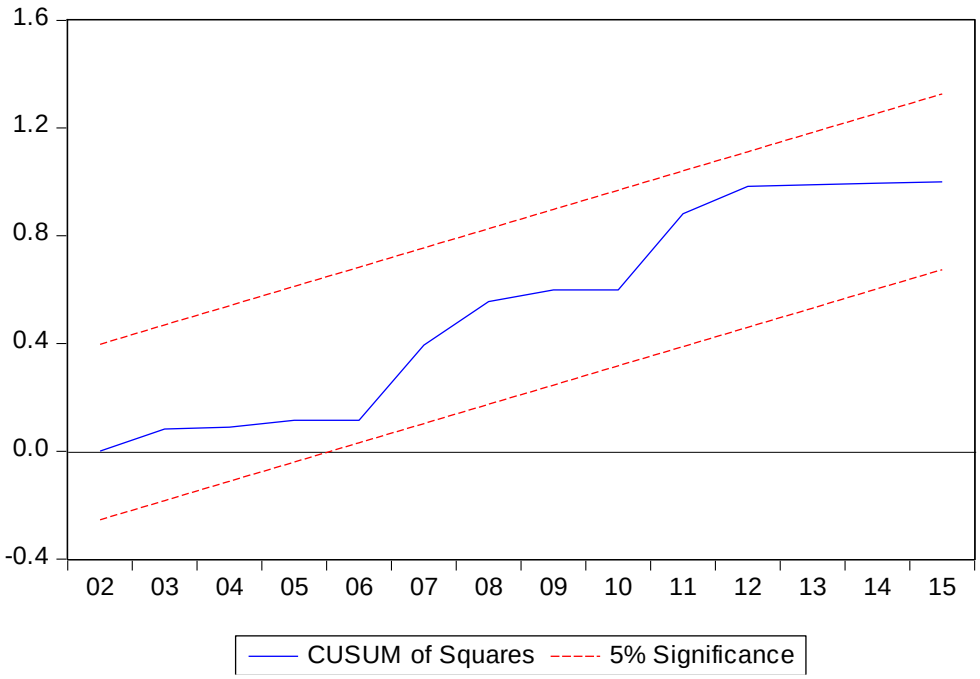
F-statistic	2.516797	Prob. F(20,11)	0.0590
Obs*R-squared	26.26111	Prob. Chi-Square(20)	0.1574
Scaled explained SS	4.237332	Prob. Chi-Square(20)	0.9999

Source: Author's Computation (2017)

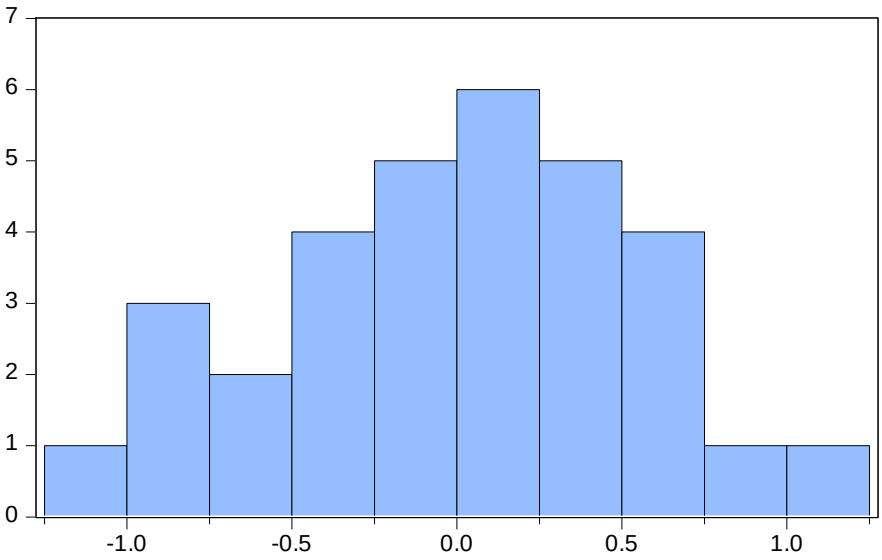
4.2.5 Cumulative Sum of Recursive Residuals (Stability Test)



4.2.6 Plot of Cumulative Sum of Square of Recursive Residuals (Stability Test)



4.2.7 Jarque – Bera Test for Normality



Series: Residuals	
Sample 1984 2015	
Observations 32	
Mean	4.75e-15
Median	-1.40e-13
Maximum	1.072462
Minimum	-1.195241
Std. Dev.	0.553088
Skewness	-0.113274
Kurtosis	2.372214
Jarque-Bera	0.593919
Probability	0.743074

Source: Author's Computation, (2017)

The Jarque-Bera residual normality test for the model which indicates 0.5939 with a P-value

HYPOTHESIS 2

Individual components of capital flight has no significant specific effects on domestic investment in Nigeria.

In order to empirically test for individual components of capital flight that really impacted on domestic investment, the ARDL method was adopted as a result of unit root test done in table … Hence the variables that made up capital flight were subjected to ARDL test.

4.3.0 ARDL BOUNDS TESTING

Test Statistic	Value	k
F-statistic	8.582682	4

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Computed F-Statistic: 8.58	Lag (K) = 4
Critical Bound Value (5%)[4]	I(0): 2.86, I(1): 4.01

Source: Source: Author's Computation, (2017)

Table 4.3 shows the results of Bounds testing. The result reveals that the calculated F-Statistics (8.58) is higher than the upper bound critical value (4.01) at 5% error level. Based on this, the study concluded that a long run co-integration relationship exists for the estimated ARDL models. Hence, the unacceptable premise of no co-integration is rejected. This implies Domestic Investment (DOI) and representative independent variables are co-integrated. This means that for the periods studied there was a sustained connection among the variables stated in the model. Since bound testing is established in the test, then it follows that a non-spurious long run relationship exists and the error correction representation can be obtained.

The result obtained by normalizing on DOI in the long run is reported in Table 4.3.1, while 4.3.2 and Table 4.3.3 present the result of the short-run dynamic coefficients for stability and diagnostic tests in order to capture hypothesis two.

Table 4.3.1Estimated Long Run Coefficients using ARDL Approach

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DOI(-1)	-1.352134	0.212732	-6.356060	0.0000
D(EXTD(-1))	-0.020650	0.034253	-0.602862	0.5562
D(EXTD(-2))	-0.046223	0.025693	-1.799081	0.0936
D(EXTD(-3))	-0.035747	0.021725	-1.645440	0.1221
D(G)	-0.009309	0.038990	-0.238763	0.8147
D(G(-1))	-0.233999	0.062062	-3.770405	0.0021
D(G(-2))	-0.120023	0.044068	-2.723577	0.0165
D(G(-3))	-0.098956	0.040891	-2.419966	0.0297
D(N)	-0.064971	0.055992	-1.160359	0.2653
D(N(-1))	0.411888	0.108475	3.797075	0.0020
D(N(-2))	0.271319	0.087324	3.107036	0.0077
D(N(-3))	0.183091	0.064434	2.841513	0.0131
C	10.14482	2.205261	4.600280	0.0004
EXTD(-1)	-0.040986	0.047438	-0.863980	0.4022
F(-1)	-0.156833	0.311578	-0.503350	0.6225
G(-1)	0.248297	0.061549	4.034100	0.0012
N(-1)	-0.544056	0.131582	-4.134723	0.0010

R-squared	0.795987	Mean dependent var	0.237946
Adjusted R-squared	0.548256	S.D. dependent var	3.839328
S.E. of regression	2.580485	Akaike info criterion	5.032153
Sum squared resid	93.22462	Schwarz criterion	5.856629
Log likelihood	-62.51445	Hannan-Quinn criter.	5.305444
F-staistic	3.213117	Dubin-Watsn stat	2.090160
Prob(F-statistic)	0.016248		

Source: Source: Author's Computation, (2017)

The sustained estimate above displays that the effect of imediate pass of change in external debt (EXTD(-1) on domestic investment is negatively related and non significant at 5% level. It shows further that a 1% rise in EXTD(-1) leads to approximately 2% reduction in domestic investment, all things being equal. However, a change in external debt into two period lags also indicates a negative relationship with domestic investment and non significant at 5% level. It shows that a 1% rise in EXTD(-1) leads to approximately 4% reduction in domestic investment. The non significance of change in external debt with DOI signifies that debt

obtained over the period of study was inappropriately utilized because it is expected that debt of any nature should consolidate DOI. Hence the debt obtained was siphoned out of the country as part of capital flight and that impacted negatively on DOI.

Essentially, the effect of immediate past of change in G on domestic investment is negatively related and significant at 5%. It shows that a 1% rise in G(-1) leads to approximately 23% reduction in domestic investment. However, a change in G into three period lags also indicates a negative relationship with domestic investment and significant at 5% level. It shows that a 1% rise in G leads to approximately 12% reduction in domestic investment.

Considering the effect of N into immediate past, it exerts expected positive effect on domestic investment and it is significant at 5% level. It shows a unit rise in N leads to approximately o41% surge in local investment. Moving N into three period lag also indicates a positive relationship with LOI. A unit rise in N leads to 108% surge in domestic investment and is significant at 5% level. F moved into immediate past period has a negative effect on domestic investment and it is non- significant. The negative relationship indicates that any 1% increase in F will lead to 15% reduction in DOI. The regression for the underlying ARDL equation fits very well at R^{-2} = 54%.

From the empirical analysis of component of variables that made up KF, it is obvious that N influences domestic investment most because for any 1% increase in N leads to increase in DOI by 41% and a 1% rise in G leads to 23% increase in DOI.

Then the sustained association as well as the variables that influenced DOI most from component of KF have been established, it is paramount to also estimate the short run dynamics of the variables in relation to DOI, in order to obtain the speed of adjustment between DOI and other variables.

Table 4.3.2 Estimated Short Run Coefficients using ARDL Approach (Dependent variable; DOI)

Cointegrating				
Variable	Coeficient	Std. Eror	t-Statitic	Prob.
D(F)	-0.172559	0.286360	-0.602596	0.5564
D(G)	-0.008100	0.037646	-0.215165	0.8327
D(G(-1))	-0.101232	0.053862	-1.879449	0.0812
D(G(-2))	-0.038010	0.046307	-0.820820	0.4255
D(G(-3))	-0.093188	0.037507	-2.484538	0.0262
D(N)	-0.072264	0.054922	-1.315763	0.0094
D(N(-1))	0.127086	0.065873	1.929246	0.0742
D(N(-2))	0.102423	0.062980	1.626262	0.1262
D(N(-3))	0.176752	0.064029	2.760497	0.0153
D(EXTD)	-0.030779	0.020763	-1.482383	0.1604
D(EXTD(-1))	0.029765	0.022266	1.336822	0.2026
D(EXTD(-2))	-0.015608	0.019042	-0.819649	0.4262
D(EXTD(-3))	-0.033278	0.021036	-1.581943	0.1360
CointEq(-1)	-0.743753	0.208781	-6.436193	0.0000
Cointeq = DOI - (-0.1284*F + 0.1825*G -0.4002*N -0.0251*EXTD + 7.5751)				

Source: Author's Computation, (2017)

The results of the short-run dynamic coefficients associated with the long-run relationships obtained from the ECM equation are given in table 4.2.2. The cyphers of the unsustained vigorous effects are sustained. The symmetry correction coefficient, estimated -0.74(0.0011) is highly significant and has the expected sign, and indicate a high speed of adjustment to equilibrium after a shock. Approximately 74% of disequilibria from the previous year's shock converge to the sustained symmetry in the current year.

The regression for the underlying ARDL model passes the diagnostic tests against serial corelation, fuctional form mispecfication, non-nomal errors and passed the heteroscedasticity test at 5%. The stability of error corrections model should always be subjected to graphical investigation (Pesaran, Shin and Smith, 1978). A schematic representation of the Cumulative Sum (CUSUM) and the Cumulative Sum of Square (CUSUMSQ) are also established. The cumulative sum (CUSUM) and cumulative sum of squares (CUSUMSQ) plots are shown in stability test 1 and 2 which indicate stability in the coefficients over the sample period.

4.3.3 Heteroskedasticity Test: ARCH

F-statistic	0.621117	Prob. F(2,27)	0.5448
Obs*R-squa	1.319549	Prb. C-Squre(2)	0.5170

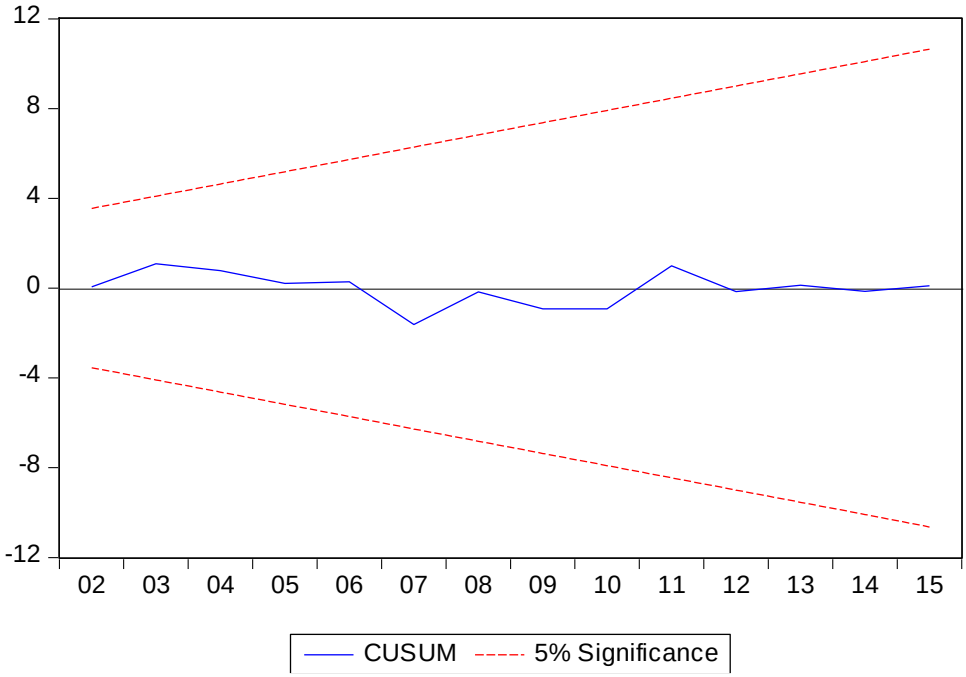
Source: Author's Computation, (2017)

4.3.4 Breusch-Godfrey Serial Correlation LM Test

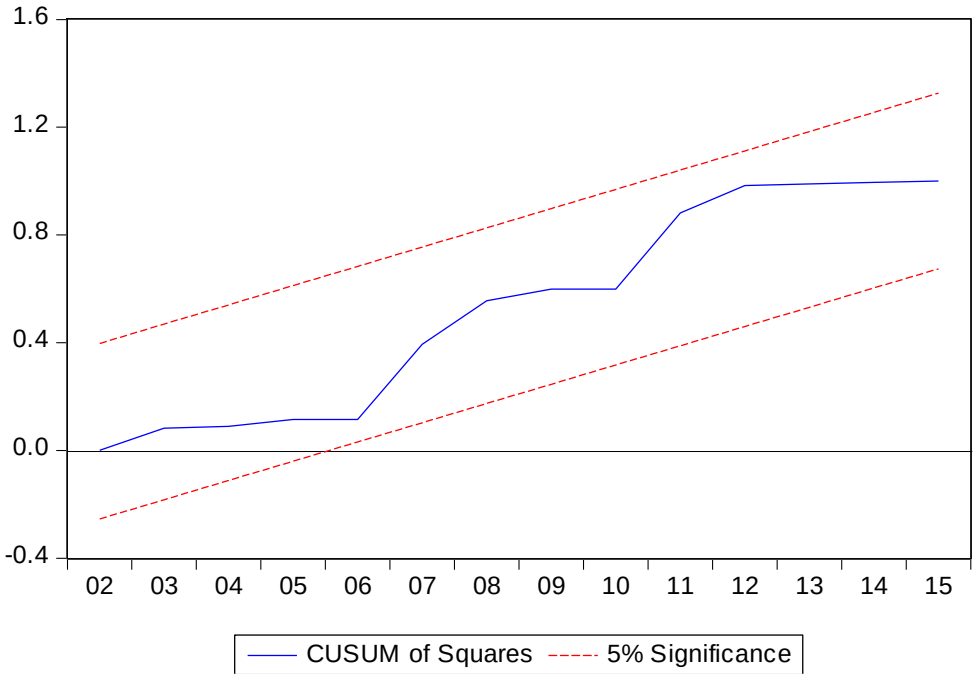
F-statistic	1.219883	Prob. F(2,12)	0.3294
Obs*R-squared	5.406770	Prob. Chi-Square(2)	0.0670

Source: Source: Author's Computation, (2017)

4.3.5 Cumulative Sum of Recursive Residuals



4.3.6 Cumulative Sum of Square of Recursive Residuals



HYPOTHESIS 3

Individual components of capital flight have no significant relationship with domestic investment in Nigeria. This objective is achieved by VEC Granger Causality/Block Exogeneity Wald Tests. This method of Granger-causality is adopted, since the previous methodology used was ARDL. The relevant approach that suite the estimation of such relationship is VEC Granger Causality/Block Exogeneity Wald Tests.

Table 4.4 VEC Granger Causality Test

4.4.1 Dependent variable: D(DOI)

Excluded	Chi-sq	Df	Prob.
D(F)	1.195194	2	0.0501
D(G)	0.468826	2	0.7910
D(N)	0.246605	2	0.8840
D(EXTD)	0.302340	2	0.0547
All	2.404498	8	0.9660

Source: Author's Computation, (2017)

The VEC Granger Causality estimates obtained from the table above displays that the unacceptable premise that LOI does not Grager-cause variables used in estimating capital flight were subjected to test at 5% level of significance. The result of VEC Granger causality test shows D(G) = 0.47 at p = 0.79 since p-value is greater than o5% level of significace, the null hypothesis is accepted. Furthermore, domestic investment does not Granger- cause change in external reserves given that D(N) = 0.24 at p = 0.88. Since p-value is greater than 5% level of significance, the null hypothesis is accepted. However, it is discovered that DOI Granger- cause change in external debt with D(EXTD) = 0.30, p-value = 0.05 and foreign direct investment D(F) = 1.19, p-value = 0.05.

The following tables below show how component of capital flight relate with one another especially in relation to DOI.

Table 4.4.2 Dependent variable: D(F)

Excluded	Chi-sq	df	Prob.
D(DOI)	1.368810	2	0.0444
D(G)	3.860771	2	0.1451
D(N)	2.372990	2	0.3053
D(EXTD)	3.574676	2	0.1674
All	6.145212	8	0.6310

Source: Author's Computation (2017)

The VEC Granger Causality estimates obtained from the table above show the unacceptable premise that Fi does not Grager- cause variables used in the model were subjected to test at 5% level of significance. The outcome of VEC test shows that Fi Grager -causes D(DOI) = 1.36 at p = 0.04. Since ip-value is less than 5i% level of signficance, the unacceptable premise is disallowed and thus Granger causality between DOI and F exists. Furthermore, F does not Granger- cause change in external reserves D(N) = 2.37 at p = 0.305. Since p-value is greater than 5% level of significance, the null hypothesis is accepted. F does not Granger-cause D(EXTD) and D(G).

Table 4.4.3 Dependent variable: D(G)

Excluded	Chi-sq	Df	Prob.
D(DOI)	0.547091	2	0.7607
D(F)	0.815026	2	0.6653
D(N)	2.300282	2	0.3166
D(EXTD)	4.905325	2	0.0361
All	7.612715	8	0.4722

Source: Author's Computation, (2017)

The VEC Granger Causality estimates obtained from the table above displays that the unimportant premise that iG doe not cause variation in variables used in the model were subjected to test at 5% level of significance. The result of VEC test displays that Gi only Granger D(EXTD) = 490 at p = 0036. Sice p-value is less than 05% level of significance, the insignificant premise is discarded whi the alternative that Granger causality between G and EXTD exists is accepted. It is discovered that G does not cause N, F and DOI at 5% level of significance.

Table 4.4.4 Dependent variable: D(N)

Excluded	Chi-sq	Df	Prob.
D(DOI)	2.788431	2	0.2480
D(F)	0.337059	2	0.8449
D(G)	1.369207	2	0.5043
D(EXTD)	0.390838	2	0.8225
All	6.307214	8	0.6129

Source: Author's Computation (2017)

Table 4.4.5Dependent variable: D(EXTD)

Excluded	Chi-sq	Df	Prob.
D(DOI)	3.681272	2	0.0527
D(F)	4.358859	2	0.1131
D(G)	7.228673	2	0.0269
D(N)	14.96450	2	0.0006
All	19.91432	8	0.0107

Source: Author's Computation, (2017)

HYPOTHESIS 4

There is no significant combined effect between FDI, energy infrastructure and domestic investment in Nigeria.

Table 4.5.1Estimated Long Run Coefficients using ARDL Approach
(Dependent variable; DOI)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(DOI(-1))	0.445524	0.392402	1.135376	0.2740
D(DOI(-2))	0.586624	0.327362	1.791975	0.0933
D(DOI(-3))	0.404510	0.211899	1.908973	0.0756
D(FDI)	0.153480	0.260380	0.589446	0.5643
D(FDI(-1))	1.814623	0.505229	3.591687	0.0027
D(FDI(-2))	1.401521	0.452284	3.098763	0.0073
D(FDI(-3))	0.791206	0.352556	2.244199	0.0403
D(INFRA)	0.067951	0.046129	1.473061	0.1614
D(EXCH)	0.033288	0.054230	0.613819	0.5485
D(EXCH(-1))	0.112456	0.061906	1.816568	0.0893
D(EXCH(-2))	-0.183579	0.064646	-2.839754	0.0124
D(EXCH(-3))	-0.164482	0.066745	-2.464338	0.0263
C	2.618584	2.445203	1.070906	0.3011
FDI(-1)	1.766666	0.510672	3.459492	0.0035
INFRA(-1)	-0.143500	0.040863	-3.511769	0.0031
EXCH(-1)	0.026775	0.013226	2.024388	0.0611
DOI(-1)	-1.808184	0.448383	-4.032681	0.0011

R-squared	0.809473	Mean dependent var	0.237946
Adjusted R-squared	0.606243	S.D. dependent var	3.839328
S.E. of regression	2.409179	Akaike info criterion	4.901264
Sum squared resid	87.06219	Schwarz criterion	5.679936
Log likelihood	-61.42022	Hannan-Quinn criter.	5.159372
F-statistic	3.983053	Durbin-Watson stat	2.307515
Prob(F-statistic)	0.005258		

Source: Author's Computation (2017)

The sustained estimation in the above displays that the impact of immediate past of foreign direct investment (FDI(-1), FDI into current period and FDI into three period lag on domestic investment are positively related and significant at 5% level. A 1% increase in FDI leads to approximately 1.81%, 1.4% and 0.79% increase in domestic investment.

Essentially, the effect of exchange rate into two lagged periods (EXCH(-2) on domestic investment is negatively related and shows a unit change in EXCH will lead to 0.18 decrease in domestic investment. Domestic investment into three lagged period of exchange rate

(EXCH(-3) also indicate negative effect and significant at 5% level. Considering the effect of energy infrastructure, it has positive effect on domestic investment in the current period but non-significant. Energy infrastructures into immediate past indicate a negative relationship with DOI. A unit increase in energy infrastructure leads to 14% decrease in domestic investment and significant 5% level. The regression for the underlying ARDL equation fits very well at R^2 = 80%. Since the sustained connection has been proven, it is paramount to also estimate the short run dynamics in order to establish the combined effect and/or speed of adjustment between DOI and other variables.

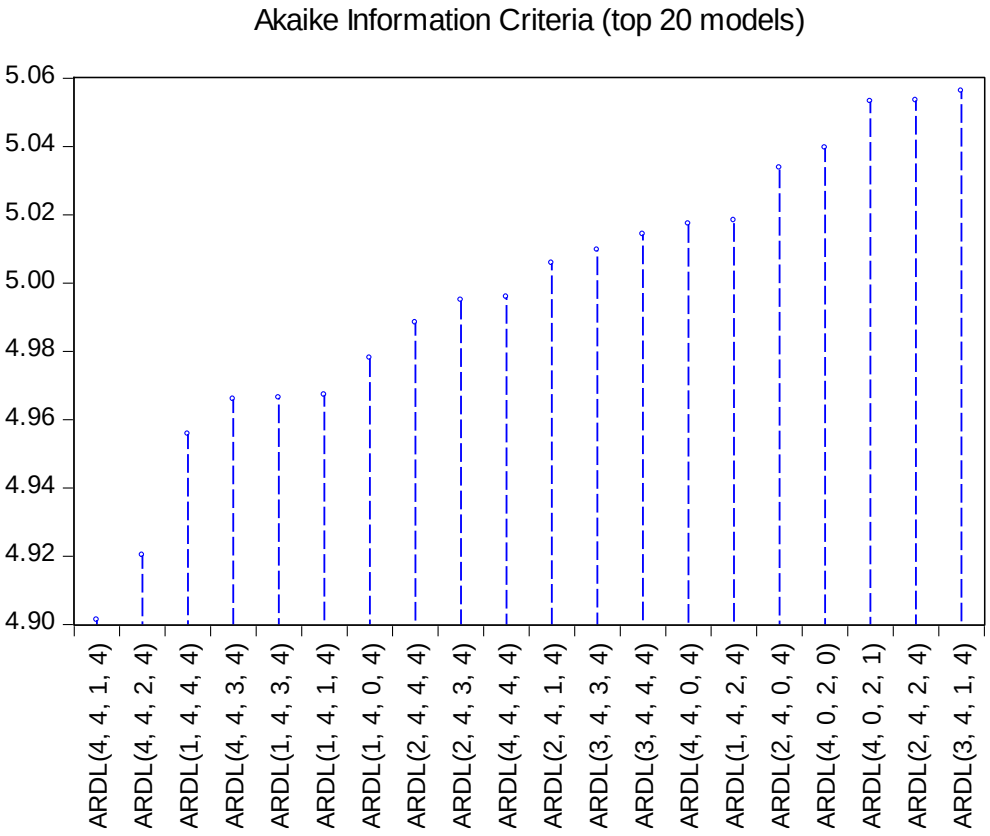
Table 4.5.2 Estimated Short Run Coefficients using ARDL Approach (Dependent variable; DOI)

Cointegrating				
Variable	Coeficient	Std. Eror	t-Statitic	Prb.
D(DOI(-1))	0.445524	0.392402	1.135376	0.2740
D(DOI(-2))	0.586624	0.327362	1.791975	0.0933
D(DOI(-3))	0.404510	0.211899	1.908973	0.0756
D(FDI)	0.153480	0.260380	0.589446	0.5643
D(FDI(-1))	0.413102	0.299375	1.379880	0.1878
D(FDI(-2))	0.610315	0.313384	1.947501	0.0704
D(FDI(-3))	0.791206	0.352556	2.244199	0.0403
D(INFRA)	0.067951	0.046129	1.473061	0.1614
D(EXCH)	0.033288	0.054230	0.613819	0.5485
D(EXCH(-1))	-0.071123	0.071862	-0.989707	0.3380
D(EXCH(-2))	0.019097	0.067990	0.280878	0.7826
D(EXCH(-3))	0.164482	0.066745	2.464338	0.0263
CointEq(-1)	-0.878184	0.448383	-4.032681	0.0011
Cointeq = DOI - (-0.9770*FDI + 0.0794*INFRA + 0.0148*EXCH + 1.4482)				

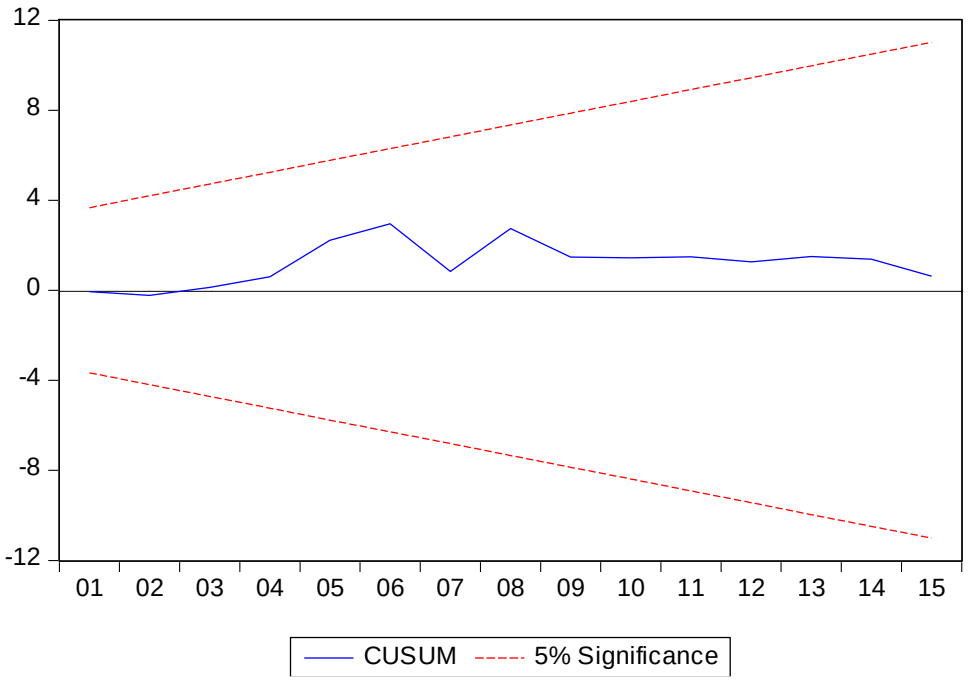
Source: Author's Computation (2017)

The results of the joint unsustained vibrant quantities related with the sustained interactions got from the EACM equation are given in table o4.2.2. The symmetry correction coefficient, estimated -0.87(0.0011) is highly significant and has the expected sign, and indicate a high speed of adjustment to equilibrium after a shock. Approximately 87% of disequilibria from the previous year's shock converge to the sustained symmetry in the existing year.

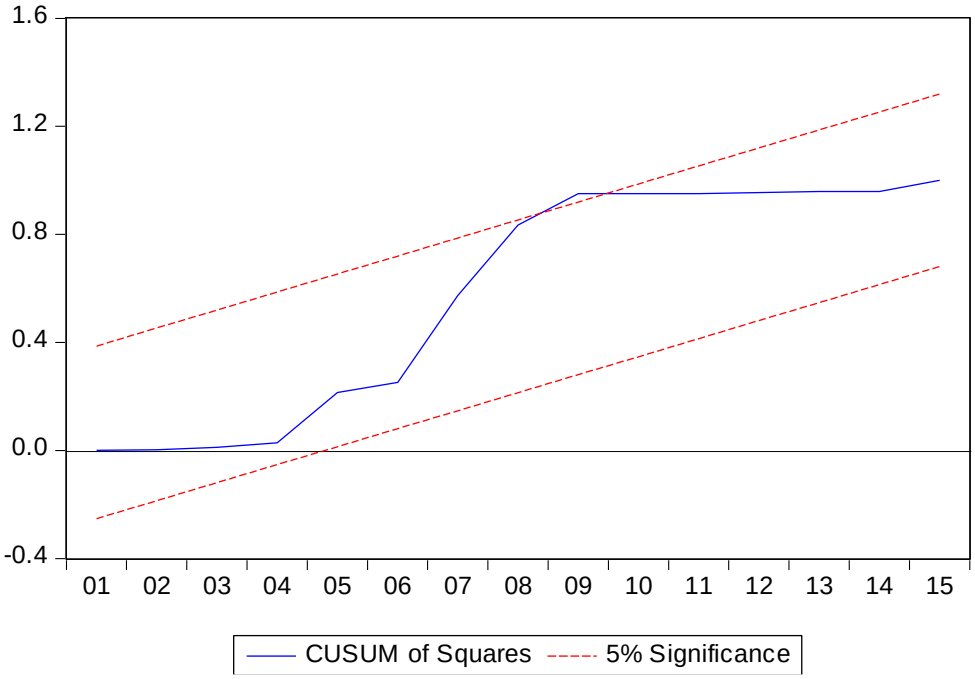
The regression for the underlying ARDL model passes the diagnostic tests against serial correlation, functional form misspecification, non-normal errors and passed the heteroscedasticity test at 5%. The stability of error corrections model should always be subjected to graphical investigation (Pesaran, Shin and Smith, 1978). A schematic representation of the Cumulative Sum (CUSUM) and the Cumulative Sum of Square (CUSUMSQ) are also established. The cumulative sum (CUSUM) and cumulative sum of squares (CUSUMSQ) plots are shown in stability test 1 and 2 which indicate stability in the coefficients over the sample period.



4.3.5 Cumulative Sum of Recursive Residuals



4.3.6 Cumulative Sum of Square of Recursive Residuals



4.6. Discussion of Findings

This section presents the discussion of major findings relating to the objectives of the study. The discussions are presented in the sequence of the research hypotheses for the study.

4.4.1. ECONOMIC VARIABLES INFLUENCING DOMESTIC INVESTMENT IN NIGERIA.

The first objective of this study is to evaluate factors influencing domestic investment in Nigeria which is subsequently divided into short run and long run effects. The results of the estimates are as presented in Table 4.2.1, 4.2.2 and 4.2.3. The findings indicate that capital flight (KF) at current period, political instability at current period and exchange rate at immediate past influenced domestic investment negatively with siginificant effects (β = -0.22; $p < 0.05$), (β = -13.81; $p < 0.05$) and (β = 0.09; $p <$ 0.05) in the long run. The adverse connection between domestic or local investment and capital flight was previously substantiated by the study of Enu, Hagan and Attah-Obeng (2013) who confirmed that real exchange rate has negative influence on growth of domestic investment in Ghana. Similarly, Ayadi (2008) demonstrated that real exchange rate has a negative effect on economic growth of Nigeria. The implication of this finding is that domestic investment decreases with increase in exhange rate. Logically, since Nigerian economy ishighly depend on import, a rise in rate of exchange upsurge the price of imported industrial inputs such as raw material and technology needed for domestic production which leads to increase in cost and price of such industrial goods with a resultant fall in aggregate demand, industrial outputs and domestic investment.

Furthermore, the results reveal that general rise in price of good and services rate has a indirect and monumental influence on local investment in the sustained period. This show that high in price of goods and services declined domestic or local investment in Nigerian economy during the period between 1980 – 2015. This finding is consistent with Akinlo (2006) who confirmed that inflation rate among other factors negatively influenced

productivity. Also, the study of Dar, Bhanja and Tiwari (2014) overwhelmingly supported this negative association between inflation and domestic investment.

In view of this, the finding of this study follows behind Akinlo (2006) as well as Dar, Bhanja and Tiwari (2014) in providing evidence of negative relationship between inflation domestic investment. A plausible argument proffered for this relationship is that increase in inflation rate caused rise in production cost snowballing to higher prices and affecting expansion of domestic investment negatively. However, the short run dynamic relationship test reveals that inflation in the immediate past has positive and significant influence on current domestic investment ($\beta = 0.12$; $p < 0.05$).

However, capital flight into current period (KF) indicates that a negative relationship exists between domestic or local investment and fled of capital and robust at 5% level. The result of long-run ARDL model validates the non-fixed accelerator postulation which states that the bigger the break between the current stock of capital and the stock of capital anticipated, the bigger a firm's rate of investment and additional sustained by the aggregate economic and political uncertainties in developing countries, and the simultaneous existence of better investment opportunities in advanced countries, such as a wide array of financial instruments, political and economic stability, favorable tax climate. However, some unscrupulous, corrupt leaders and bureaucrats in Nigeria usually siphon scarce capital resources from their countries to advanced countries. Such siphoned capital reduces desired capital stock for domestic investment which empirically leads to an inverse relationship between KF and DOI in Nigeria. This result corroborates the earlier finding of Adetioye & Adegbite (2008). The non-significance of capital flight in relation to domestic investment is also attributable to government inefficiency in implementing appropriate macroeconomic policy that will depict any fall-out in economic system.

Political instability influences domestic investment negatively. This is not a surprise because there is a clear indication that politics in Nigeria has been the opposite of what it is in the advanced economy. Politicians in Africa and Nigeria particularly are still backward in terms of social values, duly manifested in unfulfilled promises, political corruption, greed, violence and dishonesty. Political instability is said to manifest through embezzlement, misappropriation of public funds, and inflation of contract. These elements will always have uncreative impact on domestic or local investment of any economy.

Thereafter, the study conducted bounds test to examine the sustained connection between local investments, inflation, savings, uncertainty in political system, fled of capital and rate of exchange. A sustained connection indeed exists between the variable considered.

This section thus submits that factors influencing domestic investments notably capital flight, exchange rate, and political instability have negative influence on domestic investments in the long run. 0.80(0.0011) is highly significant and has the expected sign, and indicates a high speed of adjustment to equilibrium after a shock. Approximately 80% of disequilibria from the previous year's shock converge back to the long-run equilibrium in the current year.

4.5.2. Specific Effect of Individual Component of Capital flight on Domestic Investment in Nigeria

The second objetive of this study is to ascertan the speific effect of individual component of capital flight on domestic investment in Nigeria. This is subsequently divided into short run and long run effects. The result indicates that change in external debt ($\beta = 0.04$; $p > 0.05$), foreign direct investment ($\beta = 0.15$; $p < 0.05$) and current account balance ($\beta = 0.23$; $p < 0.05$) have negative effects on domestic investment in the long run situation. This position had earlier been established by Oke (2014) who found a significant negative relationship between external debt and growth. This according to the researcher occurs because of non-existence of appropriate regulatory framework to guide the growth of economic growth which invariably reduces investment and productivity. Similarly Nnanna and Ndebbio (2004) reported a negative relationship between current account balance and domestic investment and further suggest that increase in current account balance does not necessarily translate to domestic investments, a proposition seconded by Adetiloye & Adegbite (2008).

Furthermore, the study observed a positive relationship between domestic investments and change in external reserves ($\beta = 0.41$; $p > 0.05$). By implication, increase in external reserves lead to an increase in domestic investments in Nigeria during the period 1980 to 2015. This finding is consistent with the a priori as well as the conclusion of Adetiloye & Adegbite (2008) who presuppose that increase in external reserves had positive effect on domestic investments in Nigeria. Nevertheless, the findings of this study queue behind the earlier work of Oke (2014) that external reserves promote domestic investment.

Conclusively, this study submits that change in external debt; current account balance and foreign direct investments have negative effect on domestic investments in Nigeria during the long run period. The findings show that a change in external reserves has positive and significant effect on domestic investment.

4.5.3. The Causal Relationship between Domestic Investment and Individual Component of Capital Flight in the Model

The result of VEC Granger causality test shows that domestic investment does not Granger-cause current account balance D(G) = 0.47 at p = 0.79. Since p-value is greater than 5% level of significance, the null hypothesis is accepted. Furthermore, domestic investment does not Granger-cause change in external reserves D(N) = 0.24 at p = 0.88. It is noted that there is a unidirectional relationship between D(N) and domestic investment i.e. external debt Granger-causes domestic investment at 5% level of significance. The implication of this outcome is that if government borrowed fund for developmental (infrastructural development) purpose in a country, it is expected to boost domestic activities, all things being equal (that is if corruption is at minimal level). The result revealed that external debt Granger-causes external reserves. Since p-value is greater than 5% level of significance, the null hypothesis is accepted. However, it is discovered that DOI Granger-causes change in external debt D(EXTD) = 0.30, p-value = 0.05 and foreign direct investment D(F) = 1.19, p-value = 0.05.

4.5.4. combined effect between FDI, energy infrastructure and domestic investment in Nigeria.

The fourth objective of this study is to examine the combine effect between FDI, energy infrastructure and domestic investment in Nigeria. The results of the estimates are presented in table 4.5.1 and 4.5.2 the findings show that foreign direct investment ($\beta = 0.79$; $p < 0.05$), exchange rate ($\beta = -0.18$; $p < 0.05$) and energy infrastructure ($\beta = 0.14$; $p > 0.05$).

The foreign direct investment has a positive effect with domestic investment in the long run. This assertion had earlier been stated by Adekunle, Ayinde, Muritala and Fakunmoju (2018) that found a significant positive relationship between FDI and domestic investment.

According to the researcher, this occurred because FDI is expected to complement or supplement domestic investment in host country.

Furthermore, the study shows a positive relationship a positive relationship between energy infrastructure and domestic investment but non-significant. By implications energy infrastructure increases domestic investment in the country but non-significant as a result of epileptic power supply and corruption in the sector done by previous administration in the country. Exchange rate has a negative effect on domestic investment and significant at 5%. The negative effect of exchange rate with domestic investment is justified on the fact that rising exchange rate is translated to price and price determines demand for a particular commodity, hence, influence domestic investment. High exchange rate can mean high local price and reduction in quantity demanded of a particular commodity. The finding of the study corroborates the earlier work of Adetiloye and Adegbite (2008).

Conclusively, this study submits that FDI, energy infrastructure and exchange rate affect domestic investment and their combined effect on domestic investment is about 87% which means any disequilibrium in the long run can be corrected by 87% in the short run dynamics.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter presents the summary of the study followed by conclusions and recommendations. The policy implications are drawn for domestic investment growth and development while limitations and suggestions for future research are also presented.

5.1 Summary

The study specifically evaluated the effects of capital flight on domestic investment in Nigeria from 1975-2015. In order to provide meaningful insight, the study also examined the specific effect of individual components of capital flight on domestic investment in Nigeria as well as causal relationship between the variables and domestic investments. An ARDL framework was developed to conduct bound test in line with Pesearan (2001) approach to co-integration. The models were subjected to diagnostic and stability tests. The unit root was conducted and none of the variables was I(2). Having discovered that the Auto Regressive Distributive Lag (ARDL) models were stable and devoid of serial correlation, the study proceeded to estimate the short run and long run relationships. Thereafter, tests of the underlying hypotheses of the study towards achieving the research objectives were carried out.

The first objective of the study was to evaluate the basic economic variables as identified in literature influencing domestic investment in Nigeria which was examined in both short and long run. The results reveal that political instability, inflation rate, exchange rate and capital flight have a negative effect on capital flight in the long run position. However, the signs of the short-run dynamic effects are sustained up to the long-run. The equilibrium correction coefficient, estimated at -0.80(0.0011) is highly significant and has the expected sign, and indicates high speed of adjustment to equilibrium after a shock. Approximately 80% of

disequilibria from the previous year's shock converge to the long-run equilibrium in the current year.

The second objective examined the specific effect of individual component of capital flight on domestic investment in Nigeria. The results show that change in external debt, current account balance and foreign direct investment exert a negative effect on domestic investment during the long run period. However, a change in external reserves has a positive effect on domestic investment. The results of the short-run dynamic coefficients associated with the long-run relationships obtained from the Error Correction (ECM) Model equation are given in table 4.2.2. The signs of the short-run dynamic effects are carried onto the long-run. The equilibrium correction coefficient, estimated at -0.74(0.0011) is highly significant and has the expected sign, and indicates a high speed of adjustment to equilibrium after a shock. Approximately 74% of disequilibria from the previous year's shock converge back to the long-run equilibrium in the current year.

The third objective of the study examined the causal relationship between domestic investment and individual component of capital flight. The findings submit that change in external debt and foreign direct investment Granger- cause domestic investment. VEC Granger-causality Block Exogeneity Wald estimates revealed that the null hypothesis that the individual component of capital flight does not Granger cause domestic investment is rejected. The study further discovered a bi-directional relationship between domestic investment, foreign direct investment and change in external debt. In addition, there is no relationship between domestic investment, change in external reserves and current account balance.

All the fitted models were subjected to stability and diagnostic tests while the residuals of the models were all found to pass the test. This signifies that the findings of the study are good for policy considerations and implementation.

The last objective of the study examined the combine effect between domestic investment, FDI and energy infrastructure. The findings reveal that energy infrastructure, FDI, and exchange rate have about 81% combined effect on domestic investment in Nigeria. However, FDI has a positive effect on domestic investment while exchange rate has a significant negative effect on domestic investment. Energy infrastructure has positive effect on domestic investment but non-significant which indicate a serious implication on Nigeria economy.

5.2 CONCLUSION

The discussions in the previous section indicate that the study has been able to provide meaningful insights into the effect of capital flight on domestic investment in Nigeria. The study has established that capital flight, exchange rate, inflation rate and political instability influence domestic investment both in the long run and short run. It is also established that change in external debt, change in external reserves, foreign direct investments and current account balance influenced domestic investments and there is a causal relationship between domestic investment, change in external debt and foreign direct investment.

Consequently, the major conclusions drawn from this study are discussed in line with the objectives spelt out in chapter one as follows:

(i) The study discovers that a negative relationship exists between domestic investments, capital flight, political instability, exchange rate and inflation. Based on this, it is concluded that capital flight, exchange rate, inflation rate and political instability are non-monotonic determinants of domestic investments. Considering the dynamism in the short run, the study therefore, concludes that capital flight

and exchange rate do influence domestic investment, with high speed of adjustment to equilibrium after a shock.

(ii) The study further shows that change in external debt, current account balance and foreign direct investment influence domestic investment negatively while change in external reserves influences domestic investments positively in the long run. The results also reveal that external reserves in the immediate past have positive and significant effect on domestic investments in the long run and short run equilibrium situations. The equilibrium correction coefficient is highly significant and has expected sign which further indicates a high speed of adjustment to equilibrium after a shock.

(iii) The study reavels that change in external debt and foreign direct investment Granger-cause domestic investment. VEC Granger-causality Block Exogeneity Wald estimates revealed that the null hypothesis that the individual component of capital flight does not Granger-cause domestic investment is rejected. The study further discovered that there is a bi-directional relationship between domestic investment, foreign direct investment and change in external debt. In addition, there is no relationship between domestic investment, change in external reserves and current account balance.

(iv) The study submits that energy infrastructure, foreign direct investment and exchange rate have about 81% combined effect on domestic investment in Nigeria.

In sum, it is concluded that growth in domestic investment can be achieved by regulating capital flight, political instability and exchange rate within desirable limit that can stimulate growth in domestic investment.

5.3 Contribution to Knowledge

This study has made contributions to knowledge in the following areas:

(i) Theoretically, this study has been able to address the identified gap in the literature with respect to the effects of capital flight on domestic investments in Nigeria by identifying factors influencing domestic investments such as exchange rate, capital flight, political instability, inflation rate and savings. The study also looks at the specific effects of individual component of capital flight on domestic investment and finally, examines causal relationship between domestic investments and individual component of capital flight. The causality method is used to present the realistic situation of these variables on domestic investments.

(ii) The study has equally been able to establish expected benefits that could accrue to countries if appropriate investments policy formulated in line with economic growth and development, and more importantly if the identified economic variables influencing domestic investments is well captured in the policy.

(iii) Specifically, the study has succeeded in showing that domestic investments growth can be achieved through a complementary, synergistic and integration of stipulated factors in the specified models as well as the individual components of capital flight on domestic investments.

5.4 Recommendations

Based on the findings and conclusion, the study made the following recommendations;

i. Capital flight, inflation and exchange rates have been found to exert a negative influence on domestic investments both in long run and short run. Therefore, the study recommends that government should regulate and monitor inflation and exchange rate (by discouraging import and encouraging exportation) to hover within favorable boundaries.

ii. The study further recommends that government should strive to stabilize exchange rates by pursuing competitive exchange rate policies. This will improve the competitiveness of local firms by enhancing domestic investment output and promoting export.

iii. There should be stringent reforms to stem the tide of capital flight. The reform must target macroeconomic stability, removal of structural distortions to enhance domestic investment. For example, stemming the tide of inflation in an economy and stabilization of currency is crucial to macroeconomic stability, domestic investment and economic growth.

iv. Government of the developing countries including Nigeria must reduce their external debt by investing borrowed funds into productive ventures with a high probability of creating employment and yielding tax incomes enough to service accumulated debts. These governments must desist from spending such funds on exhaustive expenditures such as salaries and mere consumables.

v. The local environment must be secured and conducive to reduce degree of violence and insecurity in the society, this will make investment attractive to both local and foreign investors.

vi. Adequate energy infrastructure facilities needed to be put in place, which can stimulate stable FDI that will complement domestic investment in Nigeria.

vii. Finally, the study recommends that the Nigerian government should re-enact and pursue consumption switching policies to cushion the effect of ever increasing exchange rate and inflation rate which have negative effect on growth and development of the economy as well as domestic investments.

5.5. Suggestions for Further Studies

(i) The study specified a model with certain variables that influence domestic investment in Nigeria. A further extension of the model with alternative external independent variables should be considered.

(ii) Although, the methodology adopted in this study is dynamic in nature than those used in earlier studies, further research may consider alternative combinations of methods to achieve their objectives.

(iii) Although, external debt Granger-causes domestic investments, research studies on this topic is still scanty in case of Africa and particularly, Nigeria. Hence, there is need for more studies.

5.6 Limitations of Study

The use of some proxies and the need for some data transformation may have affected the exactness of the data. However, the analyses and results of the study are comprehensive, professionally adequate and reliable, and therefore fit for policy formulation and implementation.

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APPENDIX

Appendix 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DOI(-1)	-1.352134	0.212732	-6.356060	0.0000
D(EXTD(-1))	-0.020650	0.034253	-0.602862	0.5562
D(EXTD(-2))	-0.046223	0.025693	-1.799081	0.0936
D(EXTD(-3))	-0.035747	0.021725	-1.645440	0.1221
D(G)	-0.009309	0.038990	-0.238763	0.8147
D(G(-1))	-0.233999	0.062062	-3.770405	0.0021
D(G(-2))	-0.120023	0.044068	-2.723577	0.0165
D(G(-3))	-0.098956	0.040891	-2.419966	0.0297
D(N)	-0.064971	0.055992	-1.160359	0.2653
D(N(-1))	0.411888	0.108475	3.797075	0.0020
D(N(-2))	0.271319	0.087324	3.107036	0.0077
D(N(-3))	0.183091	0.064434	2.841513	0.0131
C	10.14482	2.205261	4.600280	0.0004
EXTD(-1)	-0.040986	0.047438	-0.863980	0.4022
F(-1)	-0.156833	0.311578	-0.503350	0.6225
G(-1)	0.248297	0.061549	4.034100	0.0012
N(-1)	-0.544056	0.131582	-4.134723	0.0010

R-squared	0.795987	Mean dependent var	0.237946
Adjusted R-squared	0.548256	S.D. dependent var	3.839328
S.E. of regression	2.580485	Akaike info criterion	5.032153
Sum squared resid	93.22462	Schwarz criterion	5.856629
Log likelihood	-62.51445	Hannan-Quinn criter.	5.305444
F-statistic	3.213117	Durbin-Watson stat	2.090160
Prob(F-statistic)	0.016248		

ARDL Bounds Test for hypothesis 2

Test Statistic	Value	K
F-statistic	8.582682	4

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: EView 9 Output, (2017)

Appendix 21

ARDL Long Run Result for hypothesis 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.

DOI(-1)	-1.352134	0.212732	-6.356060	0.0000
D(EXTD(-1))	-0.020650	0.034253	-0.602862	0.5562
D(EXTD(-2))	-0.046223	0.025693	-1.799081	0.0936
D(EXTD(-3))	-0.035747	0.021725	-1.645440	0.1221
D(G)	-0.009309	0.038990	-0.238763	0.8147
D(G(-1))	-0.233999	0.062062	-3.770405	0.0021
D(G(-2))	-0.120023	0.044068	-2.723577	0.0165
D(G(-3))	-0.098956	0.040891	-2.419966	0.0297
D(N)	-0.064971	0.055992	-1.160359	0.2653
D(N(-1))	0.411888	0.108475	3.797075	0.0020
D(N(-2))	0.271319	0.087324	3.107036	0.0077
D(N(-3))	0.183091	0.064434	2.841513	0.0131
C	10.14482	2.205261	4.600280	0.0004
EXTD(-1)	-0.040986	0.047438	-0.863980	0.4022
F(-1)	-0.156833	0.311578	-0.503350	0.6225
G(-1)	0.248297	0.061549	4.034100	0.0012
N(-1)	-0.544056	0.131582	-4.134723	0.0010

R-squared	0.795987	Mean dependent var	0.237946
Adjusted R-squared	0.548256	S.D. dependent var	3.839328
S.E. of regression	2.580485	Akaike info criterion	5.032153
Sum squared resid	93.22462	Schwarz criterion	5.856629
Log likelihood	-62.51445	Hannan-Quinn criter.	5.305444
F-statistic	3.213117	Durbin-Watson stat	2.090160
Prob(F-statistic)	0.016248		

Source: EView 9 Output, (2017)

Appendix 22

ARDL Short Run Result hypothesis 2

Dependent Variable: DOI
Selected Model: ARDL(1, 0, 4, 4, 4)
Date: 08/28/17 Time: 00:05
Sample: 1980 2015
Included observations: 35

Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(F)	-0.172559	0.286360	-0.602596	0.5564
D(G)	-0.008100	0.037646	-0.215165	0.8327
D(G(-1))	-0.101232	0.053862	-1.879449	0.0812
D(G(-2))	-0.038010	0.046307	-0.820820	0.4255
D(G(-3))	-0.093188	0.037507	-2.484538	0.0262
D(N)	-0.072264	0.054922	-1.315763	0.2094
D(N(-1))	0.127086	0.065873	1.929246	0.0742
D(N(-2))	0.102423	0.062980	1.626262	0.1262
D(N(-3))	0.176752	0.064029	2.760497	0.0153
D(EXTD)	-0.030779	0.020763	-1.482383	0.1604
D(EXTD(-1))	0.029765	0.022266	1.336822	0.2026
D(EXTD(-2))	-0.015608	0.019042	-0.819649	0.4262
D(EXTD(-3))	-0.033278	0.021036	-1.581943	0.1360

CointEq(-1)	-0.743753	0.208781	-6.436193	0.0000

Cointeq = DOI - (-0.1284*F + 0.1825*G -0.4002*N -0.0251*EXTD + 7.5751)

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
F	-0.128416	0.211984	-0.605783	0.5544
G	0.182493	0.039216	4.653521	0.0004
N	-0.400238	0.087831	-4.556930	0.0004
EXTD	-0.025101	0.032884	-0.763321	0.4579
C	7.575127	0.985258	7.688466	0.0000

Source: EView 9 Output, (2017)

Appendix 23

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.219883	Prob. F(2,12)	0.3294
Obs*R-squared	5.406770	Prob. Chi-Square(2)	0.0670

Test Equation:
Dependent Variable: RESID
Method: ARDL
Date: 08/28/17 Time: 00:09
Sample: 1980 2015
Included observations: 35
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DOI(-1)	0.414510	0.338593	1.224215	0.2444
F	-0.081524	0.376965	-0.216265	0.8324
G	0.011029	0.037917	0.290865	0.7761
G(-1)	-0.004840	0.045721	-0.105865	0.9174
G(-2)	-0.009734	0.054222	-0.179527	0.8605
G(-3)	-0.032134	0.054348	-0.591260	0.5653
G(-4)	-0.017052	0.038521	-0.442656	0.6659
N	0.022746	0.057843	0.393238	0.7010

N(-1)	0.042648	0.070925	0.601314	0.5588
N(-2)	0.013863	0.066536	0.208357	0.8384
N(-3)	0.057134	0.072349	0.789698	0.4450
N(-4)	0.050336	0.070832	0.710639	0.4909
EXTD	-0.005765	0.020901	-0.275805	0.7874
EXTD(-1)	0.016289	0.023018	0.707646	0.4927
EXTD(-2)	0.011776	0.023751	0.495791	0.6290
EXTD(-3)	-0.001516	0.018971	-0.079910	0.9376
EXTD(-4)	-0.004561	0.020923	-0.217975	0.8311
C	-2.954848	3.005046	-0.983295	0.3449
RESID(-1)	-0.722684	0.484420	-1.491855	0.1616
RESID(-2)	0.092230	0.407959	0.226076	0.8249

R-squared	0.168962	Mean dependent var	-1.12E-15
Adjusted R-squared	-1.146849	S.D. dependent var	1.727503
S.E. of regression	2.531159	Akaike info criterion	4.964403
Sum squared resid	76.88121	Schwarz criterion	5.880488
Log likelihood	-59.43044	Hannan-Quinn criter.	5.268059
F-statistic	0.128409	Durbin-Watson stat	1.964790
Prob(F-statistic)	0.999950		

Source: EView 9 Output, (2017)

Appendix 24

Heteroskedasticity Test: ARCH

F-statistic	0.621117	Prob. F(2,27)	0.5448
Obs*R-squared	1.319549	Prob. Chi-Square(2)	0.5170

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 08/28/17 Time: 00:12
Sample (adjusted): 1980 2015
Included observations: 35after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.416709	1.088649	2.219917	0.0350
RESID^2(-1)	0.214472	0.192788	1.112478	0.2757
RESID^2(-2)	-0.053238	0.193668	-0.274893	0.7855

R-squared	0.043985	Mean dependent var	2.903860
Adjusted R-squared	-0.026831	S.D. dependent var	4.256440
S.E. of regression	4.313165	Akaike info criterion	5.855860
Sum squared resid	502.2915	Schwarz criterion	5.995980
Log likelihood	-84.83790	Hannan-Quinn criter.	5.900686

F-statistic	0.621117	Durbin-Watson stat	1.959449
Prob(F-statistic)	0.544846		

Source: EView 9 Output, (2017)

Appendix 25

Vector Error Correction Estimates for hypothesis 3

Date: 08/28/17 Time: 00:16
Sample (adjusted): 1980 2015
Included observations: 33 after adjustments
Standard errors in ( ) & t-statistics in [ ]

CointegratingEq:	CointEq1
DOI(-1)	1.000000
F(-1)	1.714500
	(0.46768)
	[3.66595]
G(-1)	-0.073279
	(0.06267)
	[-1.16932]
N(-1)	0.374979
	(0.13989)
	[2.68053]

EXTD(-1)	0.373079				
	(0.06263)				
	[5.95727]				
C	-13.06478				

Error Correction:	D(DOI)	D(F)	D(G)	D(N)	D(EXTD)
CointEq1	-0.112664	-0.086345	0.540587	-0.070323	-4.546393
	(0.13642)	(0.09157)	(0.81317)	(0.48026)	(1.03228)
	[-0.82584]	[-0.94297]	[0.66479]	[-0.14643]	[-4.40423]
D(DOI(-1))	-0.643102	0.033904	-0.496642	1.066238	1.767727
	(0.21305)	(0.14300)	(1.26993)	(0.75003)	(1.61212)
	[-3.01851]	[0.23709]	[-0.39108]	[1.42160]	[1.09652]
D(DOI(-2))	-0.071091	-0.119339	0.383465	0.074751	-1.109786
	(0.22130)	(0.14854)	(1.31910)	(0.77907)	(1.67454)
	[-0.32124]	[-0.80343]	[0.29070]	[0.09595]	[-0.66274]
D(F(-1))	0.509113	-0.210845	-2.473218	-0.673331	7.673197
	(0.48640)	(0.32647)	(2.89928)	(1.71233)	(3.68051)
	[1.04669]	[-0.64583]	[-0.85304]	[-0.39323]	[2.08482]
D(F(-2))	0.143503	0.070549	-0.623849	-0.806807	3.961314
	(0.39736)	(0.26671)	(2.36851)	(1.39885)	(3.00672)
	[0.36114]	[0.26452]	[-0.26339]	[-0.57676]	[1.31749]
D(G(-1))	-0.013476	-0.047764	0.016806	0.123160	-0.884033
	(0.04851)	(0.03256)	(0.28918)	(0.17079)	(0.36710)
	[-0.27777]	[-1.46682]	[0.05812]	[0.72112]	[-2.40816]
D(G(-2))	0.020628	-0.046222	-0.262026	-0.093096	0.119335
	(0.04055)	(0.02722)	(0.24172)	(0.14276)	(0.30685)
	[0.50868]	[-1.69815]	[-1.08401]	[-0.65211]	[0.38890]
D(N(-1))	0.031344	0.069069	-0.577773	-0.415918	1.932696
	(0.07096)	(0.04763)	(0.42299)	(0.24982)	(0.53697)
	[0.44169]	[1.45009]	[-1.36592]	[-1.66487]	[3.59927]
D(N(-2))	0.028615	0.053731	-0.027194	-0.389619	0.239976
	(0.06999)	(0.04697)	(0.41716)	(0.24638)	(0.52957)
	[0.40887]	[1.14384]	[-0.06519]	[-1.58139]	[0.45315]
D(EXTD(-1))	0.004772	0.030714	-0.182876	0.006862	0.360841
	(0.03228)	(0.02166)	(0.19238)	(0.11362)	(0.24422)
	[0.14784]	[1.41778]	[-0.95058]	[0.06039]	[1.47750]
D(EXTD(-2))	-0.007694	-0.004518	-0.269498	-0.036092	0.160420
	(0.02053)	(0.01378)	(0.12235)	(0.07226)	(0.15532)
	[-0.37480]	[-0.32795]	[-2.20260]	[-0.49945]	[1.03281]
C	0.427700	0.101306	-0.025782	-0.588011	0.858491
	(0.60602)	(0.40676)	(3.61226)	(2.13342)	(4.58561)
	[0.70575]	[0.24906]	[-0.00714]	[-0.27562]	[0.18721]
R-squared	0.767474	0.412292	0.378787	0.472135	0.752996
Adj. R-squared	0.588532	0.104445	0.053389	0.195634	0.623612
Sum sq. resids	243.3418	109.6277	8645.771	3015.763	13932.81
S.E. equation	3.404072	2.284812	20.29047	11.98365	25.75786
F-statistic	1.675882	1.339274	1.164074	1.707537	5.819884
Log likelihood	-79.79130	-66.63459	-138.7022	-121.3241	-146.5756

Akaike AIC	5.563109	4.765733	9.133468	8.080250	9.610644
Schwarz SC	6.107294	5.309917	9.677652	8.624435	10.15483
Mean dependent	0.236019	-0.005681	-0.023403	-0.065758	-0.086880
S.D. dependent	3.778879	2.414373	20.85482	13.36172	41.98479

Determinant resid covariance (dof adj.)	8.92E+08
Determinant resid covariance	93107289
Log likelihood	-536.8877
Akaike information criterion	36.47804
Schwarz criterion	39.42571

Source: EView 9 Output, (2017)

Appendix 20

ARDL Bounds Test for hypothesis 2

Test Statistic	Value	K
F-statistic	8.582682	4

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: EView 9 Output, (2017)

Appendix 21

ARDL Long Run Result for hypothesis 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DOI(-1)	-1.352134	0.212732	-6.356060	0.0000
D(EXTD(-1))	-0.020650	0.034253	-0.602862	0.5562
D(EXTD(-2))	-0.046223	0.025693	-1.799081	0.0936

D(EXTD(-3))	-0.035747	0.021725	-1.645440	0.1221
D(G)	-0.009309	0.038990	-0.238763	0.8147
D(G(-1))	-0.233999	0.062062	-3.770405	0.0021
D(G(-2))	-0.120023	0.044068	-2.723577	0.0165
D(G(-3))	-0.098956	0.040891	-2.419966	0.0297
D(N)	-0.064971	0.055992	-1.160359	0.2653
D(N(-1))	0.411888	0.108475	3.797075	0.0020
D(N(-2))	0.271319	0.087324	3.107036	0.0077
D(N(-3))	0.183091	0.064434	2.841513	0.0131
C	10.14482	2.205261	4.600280	0.0004
EXTD(-1)	-0.040986	0.047438	-0.863980	0.4022
F(-1)	-0.156833	0.311578	-0.503350	0.6225
G(-1)	0.248297	0.061549	4.034100	0.0012
N(-1)	-0.544056	0.131582	-4.134723	0.0010

R-squared	0.795987	Mean dependent var	0.237946
Adjusted R-squared	0.548256	S.D. dependent var	3.839328
S.E. of regression	2.580485	Akaike info criterion	5.032153
Sum squared resid	93.22462	Schwarz criterion	5.856629
Log likelihood	-62.51445	Hannan-Quinn criter.	5.305444
F-statistic	3.213117	Durbin-Watson stat	2.090160
Prob(F-statistic)	0.016248		

Source: EView 9 Output, (2017)

Appendix 22

ARDL Short Run Result hypothesis 2

Dependent Variable: DOI
Selected Model: ARDL(1, 0, 4, 4, 4)
Date: 08/28/17 Time: 00:05
Sample: 1980 2015
Included observations: 35

Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(F)	-0.172559	0.286360	-0.602596	0.5564
D(G)	-0.008100	0.037646	-0.215165	0.8327
D(G(-1))	-0.101232	0.053862	-1.879449	0.0812
D(G(-2))	-0.038010	0.046307	-0.820820	0.4255
D(G(-3))	-0.093188	0.037507	-2.484538	0.0262
D(N)	-0.072264	0.054922	-1.315763	0.2094
D(N(-1))	0.127086	0.065873	1.929246	0.0742
D(N(-2))	0.102423	0.062980	1.626262	0.1262
D(N(-3))	0.176752	0.064029	2.760497	0.0153
D(EXTD)	-0.030779	0.020763	-1.482383	0.1604
D(EXTD(-1))	0.029765	0.022266	1.336822	0.2026
D(EXTD(-2))	-0.015608	0.019042	-0.819649	0.4262
D(EXTD(-3))	-0.033278	0.021036	-1.581943	0.1360
CointEq(-1)	-0.743753	0.208781	-6.436193	0.0000

Cointeq = DOI - (-0.1284*F + 0.1825*G -0.4002*N -0.0251*EXTD + 7.5751)

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
F	-0.128416	0.211984	-0.605783	0.5544
G	0.182493	0.039216	4.653521	0.0004
N	-0.400238	0.087831	-4.556930	0.0004
EXTD	-0.025101	0.032884	-0.763321	0.4579
C	7.575127	0.985258	7.688466	0.0000

Source: EView 9 Output, (2017)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DOI(-1)	-1.352134	0.212732	-6.356060	0.0000
D(EXTD(-1))	-0.020650	0.034253	-0.602862	0.5562
D(EXTD(-2))	-0.046223	0.025693	-1.799081	0.0936
D(EXTD(-3))	-0.035747	0.021725	-1.645440	0.1221
D(G)	-0.009309	0.038990	-0.238763	0.8147
D(G(-1))	-0.233999	0.062062	-3.770405	0.0021
D(G(-2))	-0.120023	0.044068	-2.723577	0.0165
D(G(-3))	-0.098956	0.040891	-2.419966	0.0297
D(N)	-0.064971	0.055992	-1.160359	0.2653
D(N(-1))	0.411888	0.108475	3.797075	0.0020
D(N(-2))	0.271319	0.087324	3.107036	0.0077
D(N(-3))	0.183091	0.064434	2.841513	0.0131
C	10.14482	2.205261	4.600280	0.0004
EXTD(-1)	-0.040986	0.047438	-0.863980	0.4022
F(-1)	-0.156833	0.311578	-0.503350	0.6225
G(-1)	0.248297	0.061549	4.034100	0.0012
N(-1)	-0.544056	0.131582	-4.134723	0.0010

R-squared	0.795987	Mean dependent var	0.237946
Adjusted R-squared	0.548256	S.D. dependent var	3.839328
S.E. of regression	2.580485	Akaike info criterion	5.032153
Sum squared resid	93.22462	Schwarz criterion	5.856629
Log likelihood	-62.51445	Hannan-Quinn criter.	5.305444
F-statistic	3.213117	Durbin-Watson stat	2.090160
Prob(F-statistic)	0.016248		

Appendix 23

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.219883	Prob. F(2,12)	0.3294
Obs*R-squared	5.406770	Prob. Chi-Square(2)	0.0670

Test Equation:
Dependent Variable: RESID
Method: ARDL
Date: 08/28/17 Time: 00:09
Sample: 1980 2015
Included observations: 35
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DOI(-1)	0.414510	0.338593	1.224215	0.2444
F	-0.081524	0.376965	-0.216265	0.8324
G	0.011029	0.037917	0.290865	0.7761
G(-1)	-0.004840	0.045721	-0.105865	0.9174
G(-2)	-0.009734	0.054222	-0.179527	0.8605
G(-3)	-0.032134	0.054348	-0.591260	0.5653
G(-4)	-0.017052	0.038521	-0.442656	0.6659
N	0.022746	0.057843	0.393238	0.7010
N(-1)	0.042648	0.070925	0.601314	0.5588
N(-2)	0.013863	0.066536	0.208357	0.8384
N(-3)	0.057134	0.072349	0.789698	0.4450
N(-4)	0.050336	0.070832	0.710639	0.4909
EXTD	-0.005765	0.020901	-0.275805	0.7874
EXTD(-1)	0.016289	0.023018	0.707646	0.4927
EXTD(-2)	0.011776	0.023751	0.495791	0.6290
EXTD(-3)	-0.001516	0.018971	-0.079910	0.9376
EXTD(-4)	-0.004561	0.020923	-0.217975	0.8311
C	-2.954848	3.005046	-0.983295	0.3449
RESID(-1)	-0.722684	0.484420	-1.491855	0.1616
RESID(-2)	0.092230	0.407959	0.226076	0.8249

R-squared	0.168962	Mean dependent var	-1.12E-15
Adjusted R-squared	-1.146849	S.D. dependent var	1.727503
S.E. of regression	2.531159	Akaike info criterion	4.964403
Sum squared resid	76.88121	Schwarz criterion	5.880488
Log likelihood	-59.43044	Hannan-Quinn criter.	5.268059
F-statistic	0.128409	Durbin-Watson stat	1.964790
Prob(F-statistic)	0.999950		

Source: EView 9 Output, (2017)

Appendix 24

Heteroskedasticity Test: ARCH

F-statistic	0.621117	Prob. F(2,27)	0.5448
Obs*R-squared	1.319549	Prob. Chi-Square(2)	0.5170

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 08/28/17 Time: 00:12
Sample (adjusted): 1980 2015
Included observations: 35after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.416709	1.088649	2.219917	0.0350
RESID^2(-1)	0.214472	0.192788	1.112478	0.2757
RESID^2(-2)	-0.053238	0.193668	-0.274893	0.7855

R-squared	0.043985	Mean dependent var	2.903860
Adjusted R-squared	-0.026831	S.D. dependent var	4.256440
S.E. of regression	4.313165	Akaike info criterion	5.855860
Sum squared resid	502.2915	Schwarz criterion	5.995980
Log likelihood	-84.83790	Hannan-Quinn criter.	5.900686
F-statistic	0.621117	Durbin-Watson stat	1.959449
Prob(F-statistic)	0.544846		

Source: EView 9 Output, (2017)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DOI(-1)	-1.352134	0.212732	-6.356060	0.0000
D(EXTD(-1))	-0.020650	0.034253	-0.602862	0.5562
D(EXTD(-2))	-0.046223	0.025693	-1.799081	0.0936
D(EXTD(-3))	-0.035747	0.021725	-1.645440	0.1221
D(G)	-0.009309	0.038990	-0.238763	0.8147
D(G(-1))	-0.233999	0.062062	-3.770405	0.0021
D(G(-2))	-0.120023	0.044068	-2.723577	0.0165
D(G(-3))	-0.098956	0.040891	-2.419966	0.0297
D(N)	-0.064971	0.055992	-1.160359	0.2653
D(N(-1))	0.411888	0.108475	3.797075	0.0020
D(N(-2))	0.271319	0.087324	3.107036	0.0077
D(N(-3))	0.183091	0.064434	2.841513	0.0131
C	10.14482	2.205261	4.600280	0.0004
EXTD(-1)	-0.040986	0.047438	-0.863980	0.4022
F(-1)	-0.156833	0.311578	-0.503350	0.6225
G(-1)	0.248297	0.061549	4.034100	0.0012
N(-1)	-0.544056	0.131582	-4.134723	0.0010

R-squared	0.795987	Mean dependent var	0.237946
Adjusted R-squared	0.548256	S.D. dependent var	3.839328
S.E. of regression	2.580485	Akaike info criterion	5.032153
Sum squared resid	93.22462	Schwarz criterion	5.856629
Log likelihood	-62.51445	Hannan-Quinn criter.	5.305444
F-statistic	3.213117	Durbin-Watson stat	2.090160
Prob(F-statistic)	0.016248		

Appendix 25

Vector Error Correction Estimates for hypothesis 3

Date: 08/28/17 Time: 00:16
Sample (adjusted): 1980 2015
Included observations: 33 after adjustments
Standard errors in ( ) & t-statistics in [ ]

CointegratingEq:	CointEq1
DOI(-1)	1.000000
F(-1)	1.714500 (0.46768) [3.66595]
G(-1)	-0.073279 (0.06267) [-1.16932]
N(-1)	0.374979 (0.13989) [2.68053]
EXTD(-1)	0.373079 (0.06263) [5.95727]
C	-13.06478

Error Correction:	D(DOI)	D(F)	D(G)	D(N)	D(EXTD)
CointEq1	-0.112664 (0.13642)	-0.086345 (0.09157)	0.540587 (0.81317)	-0.070323 (0.48026)	-4.546393 (1.03228)

	[-0.82584]	[-0.94297]	[0.66479]	[-0.14643]	[-4.40423]
D(DOI(-1))	-0.643102	0.033904	-0.496642	1.066238	1.767727
	(0.21305)	(0.14300)	(1.26993)	(0.75003)	(1.61212)
	[-3.01851]	[0.23709]	[-0.39108]	[1.42160]	[1.09652]
D(DOI(-2))	-0.071091	-0.119339	0.383465	0.074751	-1.109786
	(0.22130)	(0.14854)	(1.31910)	(0.77907)	(1.67454)
	[-0.32124]	[-0.80343]	[0.29070]	[0.09595]	[-0.66274]
D(F(-1))	0.509113	-0.210845	-2.473218	-0.673331	7.673197
	(0.48640)	(0.32647)	(2.89928)	(1.71233)	(3.68051)
	[1.04669]	[-0.64583]	[-0.85304]	[-0.39323]	[2.08482]
D(F(-2))	0.143503	0.070549	-0.623849	-0.806807	3.961314
	(0.39736)	(0.26671)	(2.36851)	(1.39885)	(3.00672)
	[0.36114]	[0.26452]	[-0.26339]	[-0.57676]	[1.31749]
D(G(-1))	-0.013476	-0.047764	0.016806	0.123160	-0.884033
	(0.04851)	(0.03256)	(0.28918)	(0.17079)	(0.36710)
	[-0.27777]	[-1.46682]	[0.05812]	[0.72112]	[-2.40816]
D(G(-2))	0.020628	-0.046222	-0.262026	-0.093096	0.119335
	(0.04055)	(0.02722)	(0.24172)	(0.14276)	(0.30685)
	[0.50868]	[-1.69815]	[-1.08401]	[-0.65211]	[0.38890]
D(N(-1))	0.031344	0.069069	-0.577773	-0.415918	1.932696
	(0.07096)	(0.04763)	(0.42299)	(0.24982)	(0.53697)
	[0.44169]	[1.45009]	[-1.36592]	[-1.66487]	[3.59927]
D(N(-2))	0.028615	0.053731	-0.027194	-0.389619	0.239976
	(0.06999)	(0.04697)	(0.41716)	(0.24638)	(0.52957)
	[0.40887]	[1.14384]	[-0.06519]	[-1.58139]	[0.45315]
D(EXTD(-1))	0.004772	0.030714	-0.182876	0.006862	0.360841
	(0.03228)	(0.02166)	(0.19238)	(0.11362)	(0.24422)
	[0.14784]	[1.41778]	[-0.95058]	[0.06039]	[1.47750]
D(EXTD(-2))	-0.007694	-0.004518	-0.269498	-0.036092	0.160420
	(0.02053)	(0.01378)	(0.12235)	(0.07226)	(0.15532)
	[-0.37480]	[-0.32795]	[-2.20260]	[-0.49945]	[1.03281]
C	0.427700	0.101306	-0.025782	-0.588011	0.858491
	(0.60602)	(0.40676)	(3.61226)	(2.13342)	(4.58561)
	[0.70575]	[0.24906]	[-0.00714]	[-0.27562]	[0.18721]
R-squared	0.767474	0.412292	0.378787	0.472135	0.752996
Adj. R-squared	0.588532	0.104445	0.053389	0.195634	0.623612
Sum sq. resids	243.3418	109.6277	8645.771	3015.763	13932.81
S.E. equation	3.404072	2.284812	20.29047	11.98365	25.75786
F-statistic	1.675882	1.339274	1.164074	1.707537	5.819884
Log likelihood	-79.79130	-66.63459	-138.7022	-121.3241	-146.5756
Akaike AIC	5.563109	4.765733	9.133468	8.080250	9.610644
Schwarz SC	6.107294	5.309917	9.677652	8.624435	10.15483
Mean dependent	0.236019	-0.005681	-0.023403	-0.065758	-0.086880
S.D. dependent	3.778879	2.414373	20.85482	13.36172	41.98479

Determinant resid covariance (dof adj.)	8.92E+08
Determinant resid covariance	93107289
Log likelihood	-536.8877
Akaike information criterion	36.47804
Schwarz criterion	39.42571

Source: EView 9 Output, (2017)

Appendix 26

VEC Granger Causality/Block Exogeneity Wald Tests

Date: 08/28/17 Time: 00:17
Sample: 1980 2015
Included observations: 33

Dependent variable: D(DOI)

Excluded	Chi-sq	Df	Prob.
D(F)	1.195194	2	0.0501
D(G)	0.468826	2	0.7910
D(N)	0.246605	2	0.8840
D(EXTD)	0.302340	2	0.0547
All	2.404498	8	0.9660

Dependent variable: D(F)

Excluded	Chi-sq	Df	Prob.
D(DOI)	1.368810	2	0.0444
D(G)	3.860771	2	0.1451
D(N)	2.372990	2	0.3053
D(EXTD)	3.574676	2	0.1674
All	6.145212	8	0.6310

Source: EView 9 Output, (2017)

Dependent variable: D(G)

Excluded	Chi-sq	Df	Prob.
D(DOI)	0.547091	2	0.7607
D(F)	0.815026	2	0.6653
D(N)	2.300282	2	0.3166
D(EXTD)	4.905325	2	0.0361
All	7.612715	8	0.4722

Source: EView 9 Output, (2017)

Dependent variable: D(N)

Excluded	Chi-sq	Df	Prob.
D(DOI)	2.788431	2	0.2480
D(F)	0.337059	2	0.8449
D(G)	1.369207	2	0.5043
D(EXTD)	0.390838	2	0.8225
All	6.307214	8	0.6129

Source: EView 9 Output, (2017)

Dependent variable: D(EXTD)

Excluded	Chi-sq	Df	Prob.
D(DOI)	3.681272	2	0.0527
D(F)	4.358859	2	0.1131
D(G)	7.228673	2	0.0269
D(N)	14.96450	2	0.0006
All	19.91432	8	0.0107

Source: EView 9 Output, (2017)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
DOI(-1)	-0.362661	0.209573	-1.730477	0.1041
DOI(-2)	0.141101	0.204177	0.691069	0.5001
DOI(-3)	-0.182114	0.208026	-0.875440	0.3951
DOI(-4)	-0.404510	0.211899	-1.908973	0.0756
FDI	0.153480	0.260380	0.589446	0.5643
FDI(-1)	-0.105522	0.290219	-0.363594	0.7212
FDI(-2)	-0.413102	0.299375	-1.379880	0.1878
FDI(-3)	-0.610315	0.313384	-1.947501	0.0704
FDI(-4)	-0.791206	0.352556	-2.244199	0.0403
INFRA	0.067951	0.046129	1.473061	0.1614
INFRA(-1)	0.075549	0.044118	1.712426	0.1074
EXCH	0.033288	0.054230	0.613819	0.5485
EXCH(-1)	0.105944	0.068239	1.552552	0.1414
EXCH(-2)	0.071123	0.071862	0.989707	0.3380
EXCH(-3)	-0.019097	0.067990	-0.280878	0.7826
EXCH(-4)	-0.164482	0.066745	-2.464338	0.0263
C	2.618584	2.445203	1.070906	0.3011

R-squared	0.783643	Mean dependent var	8.847076
Adjusted R-squared	0.552862	S.D. dependent var	3.602869
S.E. of regression	2.409179	Akaike info criterion	4.901264
Sum squared resid	87.06219	Schwarz criterion	5.679936
Log likelihood	-61.42022	Hannan-Quinn criter.	5.159372
F-statistic	3.395615	Durbin-Watson stat	2.307515
Prob(F-statistic)	0.011287		

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

Appendix 30

Vector Error Correction Estimates for hypothesis 3

Date: 08/28/17 Time: 00:16
Sample (adjusted): 1980 2015
Included observations: 33 after adjustments
Standard errors in ( ) & t-statistics in [ ]

CointegratingEq:	CointEq1
DOI(-1)	1.000000
F(-1)	1.714500 (0.46768) [3.66595]
G(-1)	-0.073279 (0.06267) [-1.16932]
N(-1)	0.374979 (0.13989) [2.68053]
EXTD(-1)	0.373079 (0.06263) [5.95727]
C	-13.06478

Error Correction:	D(DOI)	D(F)	D(G)	D(N)	D(EXTD)
CointEq1	-0.112664 (0.13642) [-0.82584]	-0.086345 (0.09157) [-0.94297]	0.540587 (0.81317) [0.66479]	-0.070323 (0.48026) [-0.14643]	-4.546393 (1.03228) [-4.40423]
D(DOI(-1))	-0.643102 (0.21305) [-3.01851]	0.033904 (0.14300) [0.23709]	-0.496642 (1.26993) [-0.39108]	1.066238 (0.75003) [1.42160]	1.767727 (1.61212) [1.09652]
D(DOI(-2))	-0.071091 (0.22130) [-0.32124]	-0.119339 (0.14854) [-0.80343]	0.383465 (1.31910) [0.29070]	0.074751 (0.77907) [0.09595]	-1.109786 (1.67454) [-0.66274]
D(F(-1))	0.509113 (0.48640) [1.04669]	-0.210845 (0.32647) [-0.64583]	-2.473218 (2.89928) [-0.85304]	-0.673331 (1.71233) [-0.39323]	7.673197 (3.68051) [2.08482]

D(F(-2))	0.143503	0.070549	-0.623849	-0.806807	3.961314
	(0.39736)	(0.26671)	(2.36851)	(1.39885)	(3.00672)
	[0.36114]	[0.26452]	[-0.26339]	[-0.57676]	[1.31749]
D(G(-1))	-0.013476	-0.047764	0.016806	0.123160	-0.884033
	(0.04851)	(0.03256)	(0.28918)	(0.17079)	(0.36710)
	[-0.27777]	[-1.46682]	[0.05812]	[0.72112]	[-2.40816]
D(G(-2))	0.020628	-0.046222	-0.262026	-0.093096	0.119335
	(0.04055)	(0.02722)	(0.24172)	(0.14276)	(0.30685)
	[0.50868]	[-1.69815]	[-1.08401]	[-0.65211]	[0.38890]
D(N(-1))	0.031344	0.069069	-0.577773	-0.415918	1.932696
	(0.07096)	(0.04763)	(0.42299)	(0.24982)	(0.53697)
	[0.44169]	[1.45009]	[-1.36592]	[-1.66487]	[3.59927]
D(N(-2))	0.028615	0.053731	-0.027194	-0.389619	0.239976
	(0.06999)	(0.04697)	(0.41716)	(0.24638)	(0.52957)
	[0.40887]	[1.14384]	[-0.06519]	[-1.58139]	[0.45315]
D(EXTD(-1))	0.004772	0.030714	-0.182876	0.006862	0.360841
	(0.03228)	(0.02166)	(0.19238)	(0.11362)	(0.24422)
	[0.14784]	[1.41778]	[-0.95058]	[0.06039]	[1.47750]
D(EXTD(-2))	-0.007694	-0.004518	-0.269498	-0.036092	0.160420
	(0.02053)	(0.01378)	(0.12235)	(0.07226)	(0.15532)
	[-0.37480]	[-0.32795]	[-2.20260]	[-0.49945]	[1.03281]
C	0.427700	0.101306	-0.025782	-0.588011	0.858491
	(0.60602)	(0.40676)	(3.61226)	(2.13342)	(4.58561)
	[0.70575]	[0.24906]	[-0.00714]	[-0.27562]	[0.18721]
R-squared	0.767474	0.412292	0.378787	0.472135	0.752996
Adj. R-squared	0.588532	0.104445	0.053389	0.195634	0.623612
Sum sq. resids	243.3418	109.6277	8645.771	3015.763	13932.81
S.E. equation	3.404072	2.284812	20.29047	11.98365	25.75786
F-statistic	1.675882	1.339274	1.164074	1.707537	5.819884
Log likelihood	-79.79130	-66.63459	-138.7022	-121.3241	-146.5756
Akaike AIC	5.563109	4.765733	9.133468	8.080250	9.610644
Schwarz SC	6.107294	5.309917	9.677652	8.624435	10.15483
Mean dependent	0.236019	-0.005681	-0.023403	-0.065758	-0.086880
S.D. dependent	3.778879	2.414373	20.85482	13.36172	41.98479

Determinant resid covariance (dof adj.)	8.92E+08
Determinant resid covariance	93107289
Log likelihood	-536.8877
Akaike information criterion	36.47804
Schwarz criterion	39.42571

ARDL Bounds Test
Date: 11/21/17 Time: 07:40
Sample: 1984 2015
Included observations: 32
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	6.022184	3

Critical Value Bounds

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

Test Equation:
Dependent Variable: D(DOI)
Method: Least Squares
Date: 11/21/17 Time: 07:40
Sample: 1984 2015
Included observations: 32

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(DOI(-1))	0.445524	0.392402	1.135376	0.2740
D(DOI(-2))	0.586624	0.327362	1.791975	0.0933
D(DOI(-3))	0.404510	0.211899	1.908973	0.0756
D(FDI)	0.153480	0.260380	0.589446	0.5643
D(FDI(-1))	1.814623	0.505229	3.591687	0.0027
D(FDI(-2))	1.401521	0.452284	3.098763	0.0073
D(FDI(-3))	0.791206	0.352556	2.244199	0.0403
D(INFRA)	0.067951	0.046129	1.473061	0.1614
D(EXCH)	0.033288	0.054230	0.613819	0.5485
D(EXCH(-1))	0.112456	0.061906	1.816568	0.0893
D(EXCH(-2))	0.183579	0.064646	2.839754	0.0124
D(EXCH(-3))	0.164482	0.066745	2.464338	0.0263
C	2.618584	2.445203	1.070906	0.3011
FDI(-1)	1.766666	0.510672	3.459492	0.0035
INFRA(-1)	0.143500	0.040863	3.511769	0.0031
EXCH(-1)	0.026775	0.013226	2.024388	0.0611
DOI(-1)	-1.808184	0.448383	-4.032681	0.0011

R-squared	0.809473	Mean dependent var	0.237946
Adjusted R-squared	0.606243	S.D. dependent var	3.839328
S.E. of regression	2.409179	Akaike info criterion	4.901264
Sum squared resid	87.06219	Schwarz criterion	5.679936
Log likelihood	-61.42022	Hannan-Quinn criter.	5.159372
F-statistic	3.983053	Durbin-Watson stat	2.307515
Prob(F-statistic)	0.005258		

ARDL Cointegrating And Long Run Form
Dependent Variable: DOI
Selected Model: ARDL(4, 4, 1, 4)
Date: 11/21/17 Time: 07:42
Sample: 1980 2015
Included observations: 32

Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(DOI(-1))	0.445524	0.392402	1.135376	0.2740
D(DOI(-2))	0.586624	0.327362	1.791975	0.0933
D(DOI(-3))	0.404510	0.211899	1.908973	0.0756
D(FDI)	0.153480	0.260380	0.589446	0.5643
D(FDI(-1))	0.413102	0.299375	1.379880	0.1878
D(FDI(-2))	0.610315	0.313384	1.947501	0.0704
D(FDI(-3))	0.791206	0.352556	2.244199	0.0403
D(INFRA)	0.067951	0.046129	1.473061	0.1614
D(EXCH)	0.033288	0.054230	0.613819	0.5485
D(EXCH(-1))	-0.071123	0.071862	-0.989707	0.3380
D(EXCH(-2))	0.019097	0.067990	0.280878	0.7826
D(EXCH(-3))	0.164482	0.066745	2.464338	0.0263
CointEq(-1)	-0.878184	0.448383	-4.032681	0.0011

Cointeq = DOI - (-0.9770*FDI + 0.0794*INFRA + 0.0148*EXCH + 1.4482)

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI	-0.977038	0.333792	-2.927089	0.0104
INFRA	0.079361	0.016561	4.792095	0.0002
EXCH	0.014808	0.006466	2.289950	0.0369
C	1.448184	1.294861	1.118409	0.2810

Appendix 33

Vector Error Correction Estimates for hypothesis 3

Date: 08/28/17 Time: 00:16
Sample (adjusted): 1980 2015
Included observations: 33 after adjustments
Standard errors in ( ) & t-statistics in [ ]

CointegratingEq:	CointEq1
DOI(-1)	1.000000
F(-1)	1.714500
	(0.46768)
	[3.66595]
G(-1)	-0.073279
	(0.06267)
	[-1.16932]

N(-1)	0.374979				
	(0.13989)				
	[2.68053]				
EXTD(-1)	0.373079				
	(0.06263)				
	[5.95727]				
C	-13.06478				

Error Correction:	D(DOI)	D(F)	D(G)	D(N)	D(EXTD)
CointEq1	-0.112664	-0.086345	0.540587	-0.070323	-4.546393
	(0.13642)	(0.09157)	(0.81317)	(0.48026)	(1.03228)
	[-0.82584]	[-0.94297]	[0.66479]	[-0.14643]	[-4.40423]
D(DOI(-1))	-0.643102	0.033904	-0.496642	1.066238	1.767727
	(0.21305)	(0.14300)	(1.26993)	(0.75003)	(1.61212)
	[-3.01851]	[0.23709]	[-0.39108]	[1.42160]	[1.09652]
D(DOI(-2))	-0.071091	-0.119339	0.383465	0.074751	-1.109786
	(0.22130)	(0.14854)	(1.31910)	(0.77907)	(1.67454)
	[-0.32124]	[-0.80343]	[0.29070]	[0.09595]	[-0.66274]
D(F(-1))	0.509113	-0.210845	-2.473218	-0.673331	7.673197
	(0.48640)	(0.32647)	(2.89928)	(1.71233)	(3.68051)
	[1.04669]	[-0.64583]	[-0.85304]	[-0.39323]	[2.08482]
D(F(-2))	0.143503	0.070549	-0.623849	-0.806807	3.961314
	(0.39736)	(0.26671)	(2.36851)	(1.39885)	(3.00672)
	[0.36114]	[0.26452]	[-0.26339]	[-0.57676]	[1.31749]
D(G(-1))	-0.013476	-0.047764	0.016806	0.123160	-0.884033
	(0.04851)	(0.03256)	(0.28918)	(0.17079)	(0.36710)
	[-0.27777]	[-1.46682]	[0.05812]	[0.72112]	[-2.40816]
D(G(-2))	0.020628	-0.046222	-0.262026	-0.093096	0.119335
	(0.04055)	(0.02722)	(0.24172)	(0.14276)	(0.30685)
	[0.50868]	[-1.69815]	[-1.08401]	[-0.65211]	[0.38890]
D(N(-1))	0.031344	0.069069	-0.577773	-0.415918	1.932696
	(0.07096)	(0.04763)	(0.42299)	(0.24982)	(0.53697)
	[0.44169]	[1.45009]	[-1.36592]	[-1.66487]	[3.59927]
D(N(-2))	0.028615	0.053731	-0.027194	-0.389619	0.239976
	(0.06999)	(0.04697)	(0.41716)	(0.24638)	(0.52957)
	[0.40887]	[1.14384]	[-0.06519]	[-1.58139]	[0.45315]
D(EXTD(-1))	0.004772	0.030714	-0.182876	0.006862	0.360841
	(0.03228)	(0.02166)	(0.19238)	(0.11362)	(0.24422)
	[0.14784]	[1.41778]	[-0.95058]	[0.06039]	[1.47750]
D(EXTD(-2))	-0.007694	-0.004518	-0.269498	-0.036092	0.160420
	(0.02053)	(0.01378)	(0.12235)	(0.07226)	(0.15532)
	[-0.37480]	[-0.32795]	[-2.20260]	[-0.49945]	[1.03281]
C	0.427700	0.101306	-0.025782	-0.588011	0.858491
	(0.60602)	(0.40676)	(3.61226)	(2.13342)	(4.58561)
	[0.70575]	[0.24906]	[-0.00714]	[-0.27562]	[0.18721]
R-squared	0.767474	0.412292	0.378787	0.472135	0.752996

Adj. R-squared	0.588532	0.104445	0.053389	0.195634	0.623612
Sum sq. resids	243.3418	109.6277	8645.771	3015.763	13932.81
S.E. equation	3.404072	2.284812	20.29047	11.98365	25.75786
F-statistic	1.675882	1.339274	1.164074	1.707537	5.819884
Log likelihood	-79.79130	-66.63459	-138.7022	-121.3241	-146.5756
Akaike AIC	5.563109	4.765733	9.133468	8.080250	9.610644
Schwarz SC	6.107294	5.309917	9.677652	8.624435	10.15483
Mean dependent	0.236019	-0.005681	-0.023403	-0.065758	-0.086880
S.D. dependent	3.778879	2.414373	20.85482	13.36172	41.98479

Determinant resid covariance (dof adj.)	8.92E+08
Determinant resid covariance	93107289
Log likelihood	-536.8877
Akaike information criterion	36.47804
Schwarz criterion	39.42571

Data used for Estimation of Capital Flight

Year	FDI	EXTDEBT	DEXTDEBT	FOR	DFOR	CAB	KF
1996	4.554308	95.90211	-33.60473	73,492.1	47596.52	3506870222	(3,506,917,848.0)
1997	4.297446	84.75968	-11.14243	93,776.7	20284.63	551550163	(551,570,454.9)
1998	3.284921	103.8918	19.13215	63,709.2	-30067.54	-4.244E+09	4,243,559,794.3
1999	2.80149	100.5438	-3.348027	91,089.2	27380.00	505750064	(505,777,444.7)
2000	2.457934	80.45666	-20.08714	123,329.8	32240.63	7427061116	(7,427,093,374.3)
2001	2.697522	78.46163	-1.995027	103,104.1	-20225.75	2477762769	(2,477,742,542.6)
2002	3.170064	59.9405	-18.52113	91,701.7	-11402.42	1083110754	(1,083,099,367.0)
2003	2.964106	61.18991	1.249407	144,753.1	53051.40	3390606192	(3,390,659,238.8)
2004	2.13333	51.15961	-10.0303	291,849.3	147096.25	1.6841E+10	

							(16,840,683,111.8)
2005	4.438848	26.04605	-25.11355	449,473.1	157623.75	3.6529E+10	(36,529,174,729.8)
2006	3.33798	6.831155	-19.2149	544731.68	95258.62	3.6518E+10	(36,517,672,002.4)
2007	3.62567	7.855301	1.024147	701674.6	156942.92	2.7648E+10	(27,648,412,912.2)
2008	3.93945	6.805709	-1.049593	536428.19	-165246.41	2.915E+10	(29,150,120,952.8)
2009	5.04766	10.29062	3.484908	448268.458	-88159.73	1.3867E+10	(13,867,380,016.3)
2010	1.632849	4.430893	-5.859725	390963.35	-57305.11	1.3111E+10	(13,111,173,766.7)
2011	2.147237	4.541816	0.110923	457105.926	66142.58	1.0668E+10	(10,668,505,340.6)
2012	1.533762	4.132155	-0.409661	547355.434	90249.51	1.7374E+10	(17,374,428,269.8)
2013	1.08024	4.321776	0.189621	446,644.0	-100711.44	1.9049E+10	(19,048,934,007.5)
2014	0.818972	4.506546	0.18477	357665.8	-88978.19	899199644	(899,110,664.6)
2015	0.650345	6.236407	1.729861	312409	-45256.80	-1.576E+10	15,763,278,315.5

Source: Author's Computation (2017)

Data used for the Regression

Year	InDOI	InKF	EXCH	INFLA	POL	SAVS
1980	5.7	-22.37	0.6	9.9	0	1.70475
1981	5.99146	22.59	0.61	20.9	0	1.88099
1982	6.04025	22.708	0.67	7.7	0	2.01624
1983	6.21461	22.19	0.72	23.2	0	2.24496
1984	5.99146	-18.62	0.76	39.6	0	2.39699
1985	6.42972	-21.68	0.89	5.5	0	2.52733
1986	6.68461	-19.17	2.02	5.4	0	2.63404
1987	7.03791	18.1	4.02	10.2	0	2.92745
1988	5.54126	19.5	4.54	38.3	0	3.14631
1989	6.89972	-20.808	7.39	40.9	0	2.3979
1990	7.21891	-22.33	8.04	7.5	0	3.38946
1991	6.46147	-20.907	9.91	13	0	3.63072
1992	7.11477	-21.54	17.3	44.5	0	4.00951
1993	7.41216	20.47	22.05	57.2	0	4.443
1994	7.34148	21.47	21.89	57	0	4.70926
1995	7.67508	21.67	81.2	72.8	0	4.68666
1996	7.82684	-21.978	81.2	29.3	0	4.90156
1997	8.14873	-20.13	82	8.5	0	2.94444
1998	8.34236	22.17	84	10	0	5.29867
1999	3.04452	-20.04	93.95	6.6	0	3.04452
2000	3.09104	-22.73	102.1	6.9	1	3.09104
2001	9.67527	-21.63	111.93	18.9	1	6.19042
2002	10.4738	-20.8	121	12.9	1	6.38366
2003	11.0497	-21.94	129.3	14	1	3.21888
2004	11.1951	-23.55	133.5	10.1	1	6.68151
2005	11.3894	-24.32	131.1	11.5	1	7.18308
2006	11.8606	-24.32	128.28	8.6	1	7.46143

2007	3.3673	-24.04	125.88	6.6	1	7.89862
2008	13.083	-24.095	118.86	15.1	1	8.32316
2009	3.43399	-23.35	143.73	12	1	8.6593
2010	14.3953	-23.3	151.23	11.8	1	8.69186
2011	14.3976	-23.09	153.23	10.3	1	8.78445
2012	14.4102	-23.58	154.11	12.1	1	8.99503
2013	14.4236	-23.67	155.23	10.67	1	9.06602
2014	13.8606	-20.617	156.65	11.56	1	9.39335
2015	13.8289	23.48	167.5	15.7	1	9.39409

Source: Author's Computation (2017)