FOREIGN DIRECT INVESTMENT UNDER UNCERTAINTY IN NIGERIA

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ABSTRACT

Nigeria's share of Foreign Direct Investment (FDI) inflows to Africa fell from 35.3% in 1990 to 13.6% in 2000 then rose to 16.3% in 2005 and stood at 14.1% in 2010. In theory, uncertainty adversely affects FDI inflows. However, very little attention is given to the effects of economic and political uncertainties on FDI inflows in developing countries. This study, therefore, examined the effects of economic and political uncertainties on FDI inflows to Nigeria at the aggregated and across sectors (agricultural, manufacturing, trade and business and mining and quarrying sectors), covering the period between 1970 and 2010.

A traditional investment model, extended to incorporate the role of uncertainty on FDI inflows, was employed. An Error Correction Model (ECM) measuring the cost of capital, inflation and exchange rate variability, political instability and investors' confidence was used to determine the short- and long-run effects of economic and political uncertainty on FDI inflows with data sourced from the Central Bank of Nigeria statistical Bulletin. The most preferred estimates were established using the Schwarz and Akaike information criteria. Prior to the estimations, stationarity conditions of each of the variables were ascertained using the Augmented Dickey Fuller (ADF) tests, while the Johansen method was used to determine cointegrating vectors. Tests of parameter stability, using the Chow test, were also carried out.

Economic and political uncertainties adversely and significantly affected FDI at the aggregate level. Inflation, exchange rate variability, and cost of capital (real lending rate) had negative and significant (at $P<0.05$) effects on FDI inflows, both in the short-run (-0.16, -0.12, -0.38) and the long-run (-1.12, -0.12, -0.10). Economic and political uncertainties influenced FDI flows into the sectors only in the short-run in varying degrees. The cost of capital, exchange rate variability and inflation had significant and mostly negative impacts on FDI inflows into manufacturing (-0.08, -0.28, -0.15); mining and quarrying (-0.40, 0.23, -0.41); and trade and business services (-0.05, 0.05, -0.07) sectors. This implied that the FDI inflows to manufacturing, mining and quarrying, and trade and business services sectors were market-seeking cum efficiency-seeking, and economic uncertainty acted as a disincentive to the FDI inflows. The cost of capital and inflation had a negligible, but positive impact on FDI inflows to the agricultural sector (0.01, 0.01), while exchange rate variability was insignificant. This supported the view that the FDI inflow to this sector was resource-seeking.

Economic and political uncertainties exerted a negative influence on Foreign Direct Investment inflows in the short- and long-run. The maintenance of a stable macroeconomic environment is essential if the adverse effects of economic uncertainty on Foreign Direct Investment inflows are to be effectively curtailed.

Key words: Foreign Direct Investment, Economic uncertainties, Political instability

Word count: 434

CERTIFICATION

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DEDICATION

This study is dedicated to GOD ALMIGHTY, my all sufficiency.

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CHAPTER ONE

INTRODUCTION

1.1   Background to the Study and Problem Statement

The World Investment Report 2008 revealed that the World Foreign Direct Investment (referred to as FDI henceforth) which averaged US 492.6 billion between 1990 and 2000 rose to US$1.8 trillion in 2007. Despite that, only a few countries have been successful in attracting significant FDI inflows. Indeed, Africa as a whole – sub-Saharan Africa (SSA) in particular – has not particularly benefited so much from the FDI boom. FDI inflows into Africa increased from an annual average of about US$6.9 billion between 1990 and 2000 to US$36.6 billion over the period of 2004 and 2007. In percentage terms, the share of Africa in the global FDI was about 6 in 1990, later dropped precipitously to 3 in 2007 (UNCTAD, 2008). FDI inflows to sub-Saharan African was US$ 29 billion in 2010 and stood at $37 billion in 2011, close to the historic peak of 2008 (UNCTAD, 2012).

Nigeria as a country, given her natural resource base and large market size, qualifies to be a major recipient of FDI in Africa and indeed is one of the top three leading African countries that consistently received FDI in the past decade. However, the level of FDI attracted is inadequate compared with the resource base and potential need. Nigeria's share of FDI inflow to Africa averaged around 24.68% between 1976 and 2010. For instance, available statistics showed that Nigeria's share of FDI inflows to Africa fell from 35.2% in 1990 to 13.6% in 2000 then rose to 16.3% in 2005 and stood at 14.0% in 2010. The pattern of movement in FDI inflow to Nigeria is suggestive of being affected basically by other qualitative and not quantitative factors of which uncertainty is at its centre point.

The attractiveness and actual disbursement of FDI into a given country depends on many factors, including political and economic conditions both in the host country and in the rest of the world. Uncertainty may emanate from volatility in macroeconomic variables like exchange rates, resource prices, interest rates, and changes in policies and rules of business transactions.

The essence of this research work is to find out the effect of uncertainty on the inflow of foreign direct investment into the Nigerian economy and policies to be put in place to improve the inflow. This will be done looking at the source of the FDI into the

Nigerian economy and to which sector the FDI goes to. In light of the pattern of movement in FDI inflow to Nigeria, some pertinent questions are: What are the factors that cause uncertainty in attracting FDI inflow into the Nigerian Economy? Are there differences in the way these factors affect the attraction into various sectors of the economy? And also, could there be differences in the way these factors affect inflow from different source countries?

1.2 Objectives of the Study

The broad objective of this research is to examine the effect of uncertainty on FDI inflow into the Nigerian economy. The goal is to establish the extent to which uncertainty has affected the Nigerian economy in attracting foreign direct investment.

The specific objectives of the study are to:

(i) Identify factors that cause uncertainty in attracting FDI into the Nigerian economy.

(ii) Analyse the effects of these factors in attracting FDI from the established source countries; and

(iii) Analyse the effects of uncertainty identified on FDI inflow into the different sectors of the economy.

1.3 Justification for the Study

In Africa, economic and political instability plays a significant role in hampering capital inflow along with other macroeconomic and policy uncertainties (Collier, 1994; Senbet, 1996). Empirical results, which support these hypotheses, are so far very weak in the contexts of developing countries, and especially in Nigeria. Previous studies disregarded how the role of uncertainty differs by industrial groups, as well as by source, it only focus on the analysis of aggregate FDI. However, the Centre for Economic Research on Africa (CERAF), School of Business, Montclair State University, Upper Montclair, New Jersey, have done analyses on separate industrial groups, focusing only on FDI that

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originate from US, for all African countries. This research will now broadly and specifically analyse the case for Nigeria, as well as taking the five broad categories (namely: UK, USA, Western Europe, China and Others) of FDI sources into consideration as well as the individual recipient sector in the economy .

Uncertainty affects manufacturing and non-manufacturing firms differently, due to differences in linkage to the host country market and resource use. Some manufacturing firms enter a host country to exploit untapped resources, and not for the host country market; non-manufacturing firms typically enter to provide services for the host country customers. Source of input (domestic or foreign) and destination products (local sale or export) also influence the extent to which a foreign firm is exposed to uncertainty. The focus of this study is to address the relationship between economic and political uncertainty and FDI inflow in the Nigerian economy.

Literature identifies some risk and uncertainty factors that tend to constrain investment in developing countries. These include inflation (Dombusch and Reynoso, 1989; Serven and Solimano, 1993 and Oshikoya, 1994), large external debt (Borensztein, 1990; Faruqee, 1992), credibility of policy changes during macroeconomic adjustment (Rodrik, 1989), level and variability of the real exchange rate (Faruqee, 1992; Serven and Solimano, 1993; Jenkins and Thomas, 2002), terms-of-trade effect (Oshikoya, 1994) and political instability (Bleaney, 1993; Gamer, 1993; Root and Ahmed, 1979, Schneider and Fry, 1985); and infrastructure and institutions (Asiedu, 2002, and Ajayi, 2004). In all these work, none has tried to look at all these identified variables together for the Nigerian economy specifically. Where the issue is addressed, empirical studies consistently find a negative effect of uncertainty (measured in various ways) on investment. Serven (1998) uses seven measures of uncertainty for five variables (such as growth, terms of trade) and finds evidence for all having a negative impact on levels of private investment for a large sample of developing countries. As investment is a robust determinant of growth we hypothesize that uncertainty will have a negative impact on growth.

It is important to note that most of the studies that examine determinant of FDI ignore the issue of uncertainties especially in the case of Nigeria. More importantly studies on Nigeria use a timeframe and data series that ended at most 2004 (e.g Ajayi 2004 and Asiodu 2002). However between 2004 and 2010 Nigeria as experienced both political (terrorism in the north and kidnapping the southern part of the country) and economic uncertainties (global financial crisis and economic depression) that might have affected the

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relationship between macro-economic variables and FDI inflow to the country. Including these period helps in determine the extent to which uncertainties had influenced the quantum of FDI inflow as well as the direction of the inflow in the economy. In addition, this study attempt to improve in the existing methodology on the relationship between FDI and macro-economic variables by adopting a methodology that allow for an examination of the long-run and short-run relationship between macro-economic variables and FDI inflow into the Nigerian economy.

1.4   Scope of the Study

The emphasis of this study is the effect of economic and political instability in attracting FDI into the Nigerian economy. The period of analysis for the inflow of FDI from established source countries is between 1970 and 2010. The variables used in the estimation were in annual frequency.   The explanatory variables were grouped into economic uncertainty, political instability and government policy, investor's confidence, domestic market size, cost of capital, and size of export sector. Investors' confidence was proxy by two indicators: ratio of total external debt of a host country to Gross Domestic Product (REDEBT). Investors' confidence was expected to be high in cases where the debt burden was low, so that there is no future tax obligation on the business community to pay back the debt. The second indicator was the receipts from international tourist arrivals as a ratio to total exports: this would be expected to be high if the country were safe.

The analysis took the form of establishing relationship between the identified uncertainty/risk and FDI, using Error Correction Model (ECM). The data that used covered the period between 1970 and 2010. The choice of these years had to do with the availability of data. Most of the data were sourced from Central Bank of Nigeria Statistical Bulletin and data before 1970 were not listed and as at the time of analysis, data after 2010 were not available.

1.5   Organization of the Study

In pursuit of the objective of this study the work is structured as follows:

Chapter II entails trends of FDI in Nigeria and Chapter III is the literature review. The theoretical framework, methodology and model specification are presented in Chapter IV. The model estimation, results and interpretation will be presented in Chapter V.

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Summary of the work, policy recommendations and conclusions will be contained in chapter VI.

CHAPTER TWO

FDI INFLOW TRENDS IN NIGERIA AND GLOBAL FINANCIAL CRISIS

2.1 HISTORICAL TREND OF FDI INFLOW IN NIGERIA

After independence, Nigeria potential in attracting foreign direct investment was large, but it was not long before it was daunted. At the onset, the enthusiasm of Nigerian governments at embracing foreign direct investment was based on a list of opportunities expected to be derived from such investment, but this was short lived.

In fact, as early as 1962, Nigerians started to believe that opening up of the economy to foreign investor may not be the best way to develop the economy, FDI was seen as "parasitic" and retarding the development of domestic industries for export promotion Ayanwale (2007). Between 1963 and 1972 an average of 65% of total capital was in foreign hands (Ogunkola and Jerome, 2004). The policy maker argument was premised on the fact that the economy should not be dominated by foreigners (fear of another form of colonialism), as well as possible divergences between the foreign investors and Nigeria's macro-economic policy objectives (Obioma, 1997).

Over the years therefore, substantial statutory provisions were inserted into Nigeria's foreign investment policies and strategies, some of these were counter-productive towards attracting FDI into Nigerian economy (e.g. Exchange Control Act of 1962, Immigration Act of 1963, Company Act of 1968 and the Nigeria Enterprise Promotion Decree, popularly known as indigenous decree of 1972, and 1976). In addition, over 3 years of civil war led to lack of clear jurisdiction of government agencies charged with FDI approvals, corruption and red-tapism at the public sector all made the investment environment to become unfriendly. By the early 1980s, it was clear that the overvalued naira could no longer sustain adequate foreign exchange to repatriate proceeds of foreign investors operating in the country. This therefore led to forced re-investment of

foreign investors' unremitted profit, which further worsened the investment climate and image of the Nigerian economy.

The period since 1986, however, has witnessed a marked shift in trade policy away from inward looking and dirigisme strategies towards a more outward orientation. The Nigerian government introduced a number of incentives and measures to stimulate FDI inflow into the economy. These included the industrial policy of 1988 which embodied provisions for FDI inflow. It created an FDI-friendly framework as incorporated in the provisions of the Industrial development co-ordination committee (IDCC) under decree No. 36 of 1988, to act as a speedy agency for approval of FDI into Nigeria. The regulatory institution fell below the expectation of the mandate assigned to it, by the World Bank recommendation that initiated the ideas Pfeffermann (1992).

This made the government to replace IDCC with another agency, Nigeria Investment Promotion Commission (NIPC) in 1995. It is doubtful whether the current management is well equipped to situate Nigeria economy on a solid foundation of industrial progress. Similarly, in 1995 budget, government repealed the Exchange Control Act of 1962 as well as the Enterprise promotion decree of 1976, which now cleared the way for the stock market to be opened to foreign investors. In August of the same year, the government issued the Nigerian Investment Promotion, foreign exchange monitoring and miscellaneous provision decrees which now authorized any person, including non-Nigerians to deal in, invest in, acquire, dispose of or transfer any interest, in securities market. These decrees were targeted at removing all bottlenecks to the inflow of FDI into Nigeria. In addition, the privatization and commercialization decree removed restrictions or limitations placed on foreign ownership of economic enterprises by previous policies.

The SAP reforms also impacted on the Nigeria tax system. The tax system reform was to encourage investment in the Nigeria economy. Various tax policy instruments were employed by the Nigerian government to enhance investment especially in the manufacturing sector. For instance, corporate income tax rate in Nigeria has been falling since the introduction of SAP in 1986. Prior to this time, it was 45% but was reduced to 40% with effect from 1st January, 1987.

This was further reduced to 35% by January 1, 1992. The present level of 30% took effect from January 1, 1996.

In addition, various tax incentive measures have been given to manufacturing industry. For instance, effect from 1990, agriculture and manufacturing industries were granted 10% investment allowance for the first year of purchase of property and machinery. Also, manufacturing and construction industries were granted accelerated depreciation in plant and machinery from 20% initial and 10% annual allowances in 1986 to 25% and 10% in 1989 and then to 50% and 25% in 1996. Import duties on manufacturing machineries have been fluctuating since 1985. It was reduced from 15% to 10% in 1985, and reverted to its old rate of 15% in 1993. It fell to its lowest rate of 5% in1995 and since 1999 to date, the import duties on manufacturing machineries remain at 10%. All these efforts are geared towards attracting investment especially foreign direct investment.

The push toward privatization continued in early 1997, with the government's objective switching from restoring economic stability to expanding privatization and the promotion of growth. Despite these formal measures and reforms, foreign investors' perceptions of Nigeria did not considerably improve during the period. In fact, the institutional investor measure of country risk decreased dramatically since 1981, the year in which the figure was the highest and notably before substantial liberalization measures. By 1985, the figure had been reduced by half, and the value in 1998 is on record as the lowest. As a proportion of the Gross Domestic Product (GDP), FDI accounted for 3.6% in 1970s, 4.3% in 1980s, 3.0% in 1990s and 1.4% during 1991 – 1998. (Source: CBN, Statistical Bulletin, various issues). The actual time series of flows is also telling. The political instability marked by military coups in December 1983 and August 1985 as well as continued intervention by the military throughout the 1990s, explain the failure of financial liberalization to affect improved investor perception or substantial increases in Foreign Direct Investment.

Through the Foreign Direct Investment, the Multinationals engage not only in trade across the globe, but also are responsible for the relocation of production plants and allocation of what is now known as international capital.

They constantly seek to broaden their markets and escape the national conditions and legislation in the area of production. In essence, it is argued that they decide where the capital goes and when, through their investment decisions. According to Sanusi and Garba (2003), to international investors such as MNCs, globalization is breaking national barriers to trade and capital is attracted when countries offer competitive returns, relative security and freedom of entry and exit which are made available through globalization.

We would like to add that the pursuit of FDI without serious attention to what would make Nigerians invest in their own country only results in foreigners focusing on enclave-type economic activities, notably oil and gas. (An enclave economic activity is one in which investors can make quick huge returns with minimal exposure to the prevailing hostile investment climate and without any significant linkages to the host economy).

In the oil sector, the lack of investment in oil refineries for decades and the consequent high prices and unending periodic shortages of petrol and diesel is a testimony to the enclave nature of investment in the sector.

During 2003–2007, Global FDI flows followed an upward trend, fuelled by steady world economic growth, ongoing liberalization in investment regimes and the implementation of large-scale internationalization strategies by a growing number of transnational corporations (TNCs). This led to an unprecedented level in FDI flows in 2007, with flows reaching a historic record of $2.0 trillion (UNCTAD, January 2009). The figure stood at $1.3 trillion in 2012 (UNCTAD, 2013).

Table 1: Global: Foreign Direct Investment Inflow (US$ million)

Year	Global FDI	Africa Share	%age of Africa Share
1970	13,346	1,266	9.49
1980	54,069	400	0.74
1990	207,362	2,846	1.37
1995	343,544	5,907	1.72
2000	1,413,169	9,621	0.68
2002	626,081	14,613	2.33
2004	734,148	17,370	2.37
2006	1,480,587	36,575	2.47
2007	2,002,695	51,274	2.56
2008	1,816,398	58,894	3.24
2009	1,216,475	52,964	4.35
2010	1,408,537	43,582	3.09
2011	1,651,511	47,598	2.88
2012	1,350,926	50,041	3.70

Source: UNCTAD, World Investment Report 2013;
www.unctad.org/wir or www.unctad.org/fdistatistics

2.2   The Investment Environment in Nigeria

The pro-business investment climate that would make foreigners invest in economic activities that would yield the benefits of backward and forward linkages to national economic activities is the same that Nigerians need to invest in their own country. With very poor infrastructure (acute shortage of electricity, bad roads, poorly maintained airlines, railways and waterways), serious security concerns (insecurity of property and life, and militants on the rampage in the Niger Delta and insurgence in the North), and serious inadequacies in human capital, neither Nigerians nor foreigners are likely to make the country a favoured investment destination. However, because the country has opted for economic liberalization (trade liberalization, deregulation, and privatization) and because of its membership in the World Trade Organization, its economy is an integral part of the global economy. This allows foreigners to cherry pick, that is, invest in sectors that carry minimal risks and very high returns within the shortest time possible.

Although UNCTAD's World Investment Report 2004, reported that Africa's outlook for FDI is promising, the expected surge is yet to be manifest. FDI is still concentrated in only a few countries for many reasons, ranging from negative image of the region, to poor infrastructure, corruption and foreign exchange shortages, an unfriendly macroeconomic policy environment, among others (Ayanwale, 2007).

The Nigerian business environment cannot be described has being friendly and congenial for investment to thrive. This can be seen all around us and it include grossly deficient infrastructure and other vital services necessary to support business activities, frequent policy somersaults, bureaucratic bottlenecks, high interest rate, and corruption on the part of government officials all have impaired our investment environment.

2.2.1   Frequent Policy Reversals

Indiscriminate and frequent policy reversal is one big impediment to successful business operation in the Nigerian investment environment. Investors

operate in an uncertain situation and in constant fear and trepidation of whether or not to make strategic business and investment decisions that could be rendered useless by government indecision and policy reversal the next day (Banjoko. 2007). The spate of government policy reversals in recent time have thrown many companies out of business For example in 2005, **Dunlop Nigeria Plc** foresaw a big opportunity in the radial truck tyre market and decided to capitalize on it by expanding its radial truck tyre lines of business. This seemed the most expeditious thing to do more so when import duty was as high as 40%, sufficiently high enough to make any imported radial truck tyre unattractive and uncompetitive. Government was contacted and an assurance was given that no change in tariff was being contemplated Banjoko (2009).

Dunlop went to raise N8 billion from the capital market and invested the money in the expansion of its heavy radial truck tyres. No sooner was the expansion completed than the government almost overnight and without prior notice reviewed the import duty on radial truck tyres downward from 40% to 10% with effect from the 2007 budget year. By this action, the weight of advantage was tilted in favour of importers of finished radial truck tyres and therefore put locally produced tyres at a big cost disadvantage. Thus, Dunlop's truck tyre expansion project had to be abandoned.

The incident of government policy reversal and instability is also noticeable in the sale and latter cancellation of sales of many public sector businesses in the insurance, oil and telecommunication sectors. Each successive government that came on board also had a penchant for undoing the actions of the past government. The sale of NICON was made and later reversed and later reinstated. The latest in this saga is that of NITEL, which was sold and reversed, while a number of oil blocks previously allocated were reversed for reasons that were mainly political. Some previously privatized companies' e.g. refineries and steel companies were undone and taken over again. There were numerous waivers of import duties that were later reversed.

These ugly incidents of policy reversals do not send a good signal other than to dampen interest in new investments and destroy confidence in the stability of our industrial sector.

2.2.2 Multiple Taxation and Other Spurious Levies and Charges

Apart from the wrecking of the manufacturing sector through the series of hostile policies, an equally disturbing phenomenon is the plethora of taxes and levies introduced and imposed on manufacturers by virtually all tiers of government in the country. A summary of the levies, taxes and charges are as catalogued in table 2.

Table 2: Summary of Levies, Taxes and Spurious Charges Imposed on Manufacturing Business in Nigeria

1	Education Tax	9	Development Levy
2	NSTF (National Science and Technology Fund)	10	National Advertisement Fee
3	NASENI (National Science and Engineering Infrastructure Tax	11	Tenement Rate
4	Value Added Tax	12	Haulage and Permit Fee
5	Environmental Sanitation Tax	13	Big Vehicle Emblem Fee
6	Neighbourhood improvement charges	14	Fire Service Charge
7	Generating Plan Charge	15	Environmental Pollution Charge
8	Commercial premises charge	16	Advert on Vehicle, Kiosk, shop and Business premises tax

Culled from an inaugural lecture of Professor Simbo Adenuga Banjoko

The combined effect of these taxes and levies is harmful to business as it inevitably results in pushing up the costs of doing business which have resulted in the strangulation of many operators in the manufacturing sector.

2.2.3   The State of Infrastructural Facilities

Underdevelopment of physical infrastructures has been the major constraints confronting our economic and social development over the years. These critical infrastructures have gradually decayed over time due to neglect. The poor performance and inefficiency in the operation of the nation's infrastructure has been described as major constraints to industrial performance and productivity growth. As a result, the average growth rate of the national economy has stagnated and remained around 5.0% for many years (CBN Statistical Bulletin). This is because the state of our infrastructure has not encouraged investment.

In a global competitive ranking of 131 countries by the World Bank with respect to the adequacy and quality of infrastructure, Nigeria's unimpressive ranking in every aspect of infrastructure is as shown in table 3.

Table 3: Infrastructure: Nigeria's World Ranking out of 142 Countries

Items	Rank/ 142
Quality of overall infrastructure	125th
Quality of roads	120th
Quality of railroad infrastructure	104nd
Quality of port infrastructure	117th
Quality of air transport infrastructure	104th
Available airline seat km/week, million	51st
Quality of electricity supply	139th
Telephone lines/100 pop	134th
Mobile telephone subscriptions/100 pop	122nd

Source: Global Competitiveness Index 2011/12

(i) Erratic Power Supply and the Harm to Attracting FDI

If there is one area where the danger to economic and social development of the country is more noticeable and pronounced, it is the power sector. Adequate power supply is not only a strategic input to our national development, it is undoubtedly the most vital infrastructure necessary to move the economy and the manufacturing sector forward (Banjoko 2009). Every Nigerian and every business no matter how small suffers from erratic power supply. The truth is that the power crisis has seriously stifled Nigeria's socio-economic development and the power sector has for too long been a clog in the wheel of social and economic development in this country. Due to the erratic and inadequate power supply, many businesses have collapsed and many are ailing (Banjoko 2009). Many promising business initiatives have been frustrated and discouraged.

The power sector has witnessed the greatest amount of neglect and decay for many years. For example, for a period of twenty years between 1979 and 1999, Nigeria did not make any new investment in the power sector despite the fact that our population and economy grew remarkably during this period. According to NEEDS (2004) document, prior to 1999, "the power system was chaotic, unreliable and incapable of meeting the demand of a growing economy". Yet, successive military and civilian governments remained complacent and helpless. The NEEDS document attributed the malaise to the following reasons:

- Apart from the fact that no new power station was built between 1979 and 1999, no major overhaul was carried out on existing power plants between 1990 and 1999.

- Only 19 out of 79 generating units were in operation in 1999, others were left to rot away.

- Actual daily generation fell to less than 2,000 megawatts by 1998 for a country of over 100 million population as at then.

- The last transmission line built was in 1987 and no new addition since then until most recently.

- The Federal Government funding to the sector was on a continuous decline from 1980 to 2000. Even now, there is still serious under-funding of the sector.

Besides the above, our energy crisis has persisted for so long because:

- Governments over the years seemed to have grossly under estimated the enormity of our power problem and the multiplier effects on all and sundry and most especially on our investment environment. On assumption of office as Minister of Power in 1999, Chief Bola Ige thought that he could fix things up in six months. Yet for eight years, President Obasanjo battled relentlessly with the power problem and spent over ₦300 billion without much success. The present administration has committed close to ₦600 billion since its inception and has repeatedly threatened to declare a state of emergency in the power sector. Yet, no respite is in insight.

- There appears to be too much confusion in government circles as to what best strategy would resolve our energy crisis. The government had grappled with many failed strategies. For example, the issue of ensuring that adequate supply of gas is available at all times to fire existing thermal plants has neither been properly addressed nor resolved. We are frequently reminded that the power outrages are due mainly to non-availability of sufficient amount of gas to fire the power plants yet gas flaring is still going on unabated.

- As it is with every aspect of our public life, our power problem has remained insurmountable because of entrenched corruption in the power sector.

- Similar to the issue of corruption, is our political and ethnic penchant for recycling old and tired "players" to run our power sector when young and brilliant talents abound in the country and untapped.

The above-stated scenarios perpetuated by past civilian and military governments have wrecked untold hardship on the nation and its economy. Our

power sector can hardly generate and distribute 4,000 megawatts for an economy and population that requires 40,000 to 50,000 megawatts to survive. All stakeholders in the manufacturing sector have been hard hit. The table 4 shows the paucity of electricity supply to selected industrial estates in the country. Between January-June 2007, the estimated average power outage per day was 62.2%. The implication of these endemic power outages is that manufacturing companies have to divert a substantial part of their investible funds to the purchase of generating sets with its attendant effects on the costs of doing business if they want to stay in business.

Table 4:   Electricity Supply to Industrial Estates in Different States from January - June 2007

No	State	Average Energy Supply by PHCN per Day in Hours	%	Average outages per day in Hours	%
1.	Edo/Delta	11	45.8	13	54.2
2.	Imo/Abia	10.1	42.1	13.9	57.9
3.	Oyo/Ondo/Osun/Ekiti /Kwara	4	16.7	20	83.3
4.	Kano Sharada/Challawa	8	33.3	16	66.7
5.	Kaduna	5.3	22.1	18.7	77.9
6.	Ogun	14.9	62.1	9.1	37.9
7.	Kano Bompai	5	20.8	19	79.2
8.	Apapa (Lagos)	12.1	50.4	11.9	49.6
9.	Ikeja (Lagos)	11.7	48.8	12.3	51.3
10.	Anambra/Enugu	10.1	42.1	13.9	57.9
11.	Bauchi/Benue/Plateau	8.7	36.3	15.3	63.8
12.	Rivers	14	58.3	10	41.7
13.	Cross River	3	12.5	21	87.5
	Total Average	9.07	37.8	14.93	62.2

Source: Manufacturers Association of Nigeria's Economic Review Jan - June 2007.

This has led to many companies folding up, and new investment is not encouraged. A few case studies to exemplify the ugly situation would do:

Dunlop Nigeria Plc has been operating in Nigeria for over 45 years and it is reputed to be the only local tyre manufacturing plant in West Africa with a multi-billion naira investment and about 1200 employees. Today, the company that was once the pride and bride of Nigeria trye industry has finally been brought to its knees. December 2008, Dunlop was forced to close down its entire tyre production after it had grappled for many years with rising cost of operation fuelled by the huge amount spent in generating its electricity needs which is put at about N150 million per month As at today, Dunlop is not producing tyre any more in Nigeria but has joined the list of tyre importers and has lately diversified into real estate business and the exportation of its raw rubber from its various rubber plantations in Nigeria in order to survive.

Michelin Tyre Company Ltd had earlier closed down its Port Harcourt factory and is now concentrating on massive importation of tyres. **Unilever (Nigeria) Plc** was forced to shut down its Aba factory and has relocated to Ghana. **Nestle Nigeria Plc** and **Cadbury Nigeria Plc** have also been forced to shift 50% their operation to Ghana where electricity supply is stable and reliable and where business environment is more conducive Banjoko (2009).

(ii)   Road Transportation System

Good road transportation system is an essential aid to commerce and national development. The bulk of our network of roads across the country is not only inadequate, unmotorable but unsafe. Most states are badly hit by government indifference to the deplorable road situation and the resultant carnage on our roads. How can one justify government's indifference to the deplorable state of the Shagamu-Ore- Benin road or the state of the roads in most parts of the South-East that have remained so bad for many years? The situation has not only endangered many lives, it has adversely affected vehicular movements of goods from one part of the country to another.

According to Delaney (2008), "the value added from a functioning transportation network is multi-dimensional, acting as a source of employment, a contributor to GDP, a growth accelerator and a prerequisite for global competitiveness".

(iii)   The Rail System

Our rail system of transportation has completely collapsed and efforts to resuscitate it have failed mostly because of entrenched sectional interests. Increased interest in the haulage business by politically and economically powerful trailer owners has stifled the rail transportation system in Nigeria and further frustrated any attempt by government to revive it. Successive governments have paid lip service to the revitalization of the rail system. We are witnessing situations where sectional interest has been used not only to wreck the manufacturing sector but to destroy the entire economy as ethnic and political interest is often raised above other considerations in taking many strategic decisions.

2.2.4 The Port and Customs Clearance System

Clearance of goods through the Nigerian ports system and the series of customs formalities have become serious pains in the neck for most importers and manufacturers whose goods have to pass through the ports. Nigeria operates the most inefficient port system in the West African sub region, a situation that has led to the diversion and clearance of most imported goods meant for Nigeria through Cotonu ports with the resultant loss of revenue to Benin Republic.

At present, there is a serious congestion at both the Apapa and Tin Can ports. As goods take as much as one month to clear, they accumulate increased demurrage and other port charges that eventually push up the costs of operations to be borne by the manufacturers.

Bureaucratic processes and unnecessary delays due to multiple inspection points and unholy arm-twisting by customs officials and other clearing agents often hold up the clearing of goods for up to two or three weeks what could have been done within 24 hours. There is need for the complete overhaul of the Port and

Custom clearing system in Nigeria in order to purge it of endemic corruption perpetuated by the customs officials and incessant pilferage by the so-called "wharf rats". An efficient port system that would enhance efficient and timely clearance of goods by importers is not only imperative for our import - dependent economy but also for our global competitiveness.

2.3   Negative Policies: Deterrent to Investment

Government policies and behaviours that shape the investment climate cover a truly broad terrain: stability and security (including macroeconomic stability, securing property rights, curbing crime); regulation and taxation both at and within the border; finance and infrastructure; and workers and labour markets (including worker skills and measures to help workers cope with change). But firms do not evaluate policies in each area in isolation; they look at them as part of a package. To evaluate them from a firm's perspective, new data allows policies to be measured according to their impact on three key factors influencing opportunities and incentives for firms: risks, costs and barriers to competition.

Risk – Because investment is forward-looking, uncertainty and risk chill incentives to invest. Indeed policy-related risks dominate concerns of firms in developing countries; policy uncertainty and macroeconomic instability are the 2 top-rated concerns across countries (also true across firms). The shape of firms reporting that the interpretation of regulations are unpredictable as a major constraint is 34% in China, 56% in Indonesia and 89% in Guatemala. The share of firms that lack confidence in courts to uphold their property rights ranges from 19% in Malaysia to 83% in Bangladesh. The World Development Report 2005 shows that improving policy predictability alone can increase the probability of new investment by over 30% (UNCTAD, 2005).

*Cost-*Policy related costs directly influence the range of opportunities that might be profitable, and hence the incentive to invest. Firms everywhere complain about taxes. But the other costs associated with a weak investment climate can be more than three times what firms typically pay in taxes. In Tanzania, poor infrastructure, weak contract enforcement, corruption, crime and burdensome

regulation amount to nearly 30% of sales. And these are actually a bigger constraint than taxes, because unlike taxes, firms bear these costs whether or not they make a profit. Also, costs have a time dimension. In many developing countries, managers spend more than 15% of time dealing with officials, rather than concentrating on making better products or improving their productivity. To start a new business takes 2 days in Australia but 203 in Haiti. To enforce a simple contract takes 48 days in Netherlands, 69 days in Singapore and 730 days in Nigeria (Source: World Bank Investment Climate Surveys, 2005).

*Barriers to competition-*Barriers deny opportunities to some firms, increase costs for other firms depending on inputs from protected sectors, and reduce incentives for protected firms to innovate and increase productivity. High risks and costs themselves act as barriers to entry. But governments also influence the extent of barriers through regulations of entry and exit and approaches to controlling anti-competitive behaviour by firms. Firms facing strong competitive pressure are at least 50% more likely to innovate (Source: World Bank Investment Climate Surveys, 2005).

2.4   Some Stylized Facts about FDI Inflow in Nigeria

It is now widely acknowledged that foreign direct investment (FDI) is an important aspect of the recent wave of globalization. UNCTAD, World Investment Report 2012 notes that FDI in the world rose from an annual average of about US$492.6 billion in 1990-2000 to its peak of US$2.02 trillion in 2007, and stood at US$1.35 trillion in 2012. Even so, only a few countries have been successful in attracting significant FDI inflows. Indeed, Africa as a whole – sub-Saharan Africa (SSA) in particular – has not particularly benefited so much from the FDI boom. However, for most of the time since 1990, FDI inflows into Africa have increased from an annual average of about US$6.9 billion in 1990-2000 to its peak of US$58.9 billion in 2008 and stood at US$50.0 billion in 2012.

Foreign direct investment (FDI) flows to African countries increased by 5 per cent to US$50 billion in 2012 while the global FDI fell by 18 per cent, UNCTAD's annual survey of investment trends reports. FDI flows to West Africa

declined by 5 per cent to US$16.8 billion, the report reveals. FDI inflows to Nigeria declined by 21 per cent to US$7.0 billion from US$8.9 billion, accounting for much of the diminished flows to the region, the report says.

Nigeria is one of the few countries that have consistently benefited from the FDI inflow to Africa as reflected in Table 5. Nigeria's share of FDI inflow to Africa averaged around 17.0% between 1980 and 2012, from a high level of 35.2% in 1990 to a low level of 12.25% in 2004 and stood at 14.05% in 2012.

Table 5: Nigeria: Foreign Direct Investment Inflow (US$ million)

YEAR	AFRICA	NIGERIA	PERCENT OF AFRICA
1980	400	-739	
1990	2846	1003	35.24
1995	5907	1271	21.52
2000	9621	1310	13.62
2002	14613	2040	13.96
2004	17370	2127	12.25
2006	36575	4898	13.39
2008	58894	8249	14.01
2009	52964	8650	16.33
2010	43582	6099	13.99
2011	47598	8915	18.73
2012	50041	7029	14.05

Source: UNCTAD, World Investment Report 2013;
www.unctad.org/wir or www.unctad.org/fdistatistics

Further, table 6 shows us some of the major FDIs in the Nigerian economy. The United States and United Kingdom are the most significant sources of foreign investment in Nigeria. A number of French corporations are also prominent in the processing, oil and construction industries. For example, Total and Elf are leading distributors in the downstream oil sector in Nigeria, and Peugeot is the largest Nigerian car-maker. Other Asian corporations, mainly from India and China are strongly present in the national economy.

Table 6:   Largest affiliates of FDIs in the Nigerian Economy, 2004

A. Industrial

Company	Home Economy	Industry
Société des Mines de l'Air	France	Petroleum
Nigerian Breweries	Switzerland	Food products and beverages
Guinness Nigeria	United Kingdom	Food products and beverages
Nigerian Bottling	United States	Food products and beverages
Mobil Oil Nigeria	United States	Petroleum
Texaco Nigeria	United States	Petroleum
Nestle Nigeria	Switzerland	Food products and beverages
Unilever Nigeria	Netherlands	Chemicals & chemical products
Cadbury Nigeria	United Kingdom	Food products and beverages
Seven-Up Bottling Company	United Kingdom	Food products and beverages
Peugeot Automobile Nigeria	France	Motor vehicles and trailers
Glaxosmithkline Nig	United Kingdom	Chemicals & chemical products
Dunlop Nigeria	United Kingdom	Rubber and plastic products
Longman Nigeria	United Kingdom	Publishing, printing
Paterson Zochonis Industries	United Kingdom	Chemicals & chemical products

Sources: The Banker's Almanac , 2003 (London, Reed Information Services, 2003); Thomson Analytics (http://analytics.thomsonib.com/); Who Owns Whom database (https://solutions.dnb.com/wow); L'intelligent Jeune Afrique,

B. Tertiary

Company	Home Economy	Industry
MTN Nigeria	South Africa	Telecommunications
RT Briscoe	Denmark	Wholesale trade
Groupe CFAO	France	Wholesale trade
John Holt Agric Engineers	United Kingdom	Other services
BTC Nigeria Limited	Germany	Wholesale trade
Daewoo Nigeria	Republic of Korea	Construction
Volkswagen of Nigeria	Germany	Wholesale trade
Panalpina World Transport	Switzerland	Transport
Trevi Foundations Nigeria	Italy	Research and development
Siemens	Germany	Wholesale trade
Elf Petroleum	France	Wholesale trade
Nig Westminste Dredg&Marine	Netherlands	Construction
PPC Limited	Netherlands	Research and development
Dizengoff West Africa	United Kingdom	Wholesale trade
Halliburton Energy Services	United States	Other business services
ABB	Switzerland	Other business activities

Sources: The Banker's Almanac , 2003 (London, Reed Information Services, 2003); Thomson Analytics (http://analytics.thomsonib.com/); Who Owns Whom database (https://solutions.dnb.com/wow); L'intelligent Jeune Afrique,

C. Finance and insurance

Company	Home Economy	Industry
Citibank	United States	Finance
Ecobank Nigeria	Togo	Finance
First City Monument Bank	United Kingdom	Finance
NBM Bank	Belgium	Finance
Stanbic Bank Nigeria	South Africa	Finance
First Stockbrokers	India	Finance
Hogg Robinson Nigeria	United States	Insurance
Soji Commodities Wa	United Kingdom	Finance

Sources: The Banker's Almanac, 2003 (London, Reed Information Services, 2003); Thomson Analytics (http://analytics.thomsonib.com/); Who Owns Whom database (https://solutions.dnb.com/wow); L'intelligent Jeune Afrique,

2.5 Inflow of Foreign Private Capital by Country of Origin

In 1980, the United Kingdom had the highest inflow of foreign private capital investment of ₦318.2 million followed by Western Europe and United States ₦311.2 million and ₦0.4million respectively in the table 7. This pattern was maintained for the greater part of the period under consideration with some exemption. United State of America taking lead in some years such as 1988, 1992, 1997 and 2000, with private capital flow of ₦1,536.3, ₦6,836.8, ₦3,768.7 and ₦1, 855.6 respectively. China did not start investing in Nigeria until 1992. Lately, investment coming from China has increased tremendously with the highest value of ₦ 6.53 billion in 2008.

Table 7:   Flow of Foreign Private Capital by Origin (₦ Million)

	United Kingdom	United States of America	Western Europe	China*	Others
Year	Net flow	Net flow	Net flow	Net flow	Net flow
1980-84	2099.00	822.86	1471.62	-	632.24
1985-89	5031.11	1363.60	2087.36	-	1188.00
1990-94	9180.70	6176.80	1509.70	15.42	3469.02
1995-99	22795.00	20251.20	164032.78	60.54	11902.00
2000-03	36710.00	23094.50	86313.38	1142.91	20579.60
2004-06	73569.00	39146.30	106081.80	2773.48	97864.90
2007-2010	100030.7	50786.6	124077.3	5504.0	122501

Source: CBN statistical Bulletin, 2005, 2008 & 2012.
*China Statistical Yearbook (various issues)

Along the trend, there were negative values. This implies de-investment from those regions into the Nigerian economy during the period, which characterized or portrait the socio-economic condition that was present in the economy.

2.6 Cumulative Foreign Private Investment in Nigeria Analyzed By Type of Activity

In the table 8, the sector that has the biggest share of foreign investment in Nigeria as of 2008 is manufacturing and processing with ₦229, 764.6 million, while the sector that generate the least is Agriculture, Forestry and Fisheries with a stagnant inflow of ₦1, 209.0 million for 12 years. It stood at ₦1397.2 in 2008. After Manufacturing and processing sector, the sector that follows is the Mining and Quarrying sector with ₦140, 497.1 million, Miscellaneous services with ₦102, 780.0 million, Trading and Business services with ₦140, 370.1 million, Building and Construction sector with ₦12, 702.5 million, followed by Transport and Communication with ₦11, 383.3 million and finally the least of the whole lot is Agriculture, Forestry and Fisheries sector as earlier mentioned. This follows the pattern of opportunities put in place by the government such has tax holiday for new companies etc.

Table 8: Cumulative Foreign Private Investment in Nigeria Analyzed by Type of Activity (₦ Million)

Year	Mining and Quarrying	Manufacturing and Processing	Agriculture & Forestry	Transport And Communication.	Building and Construction	Trad. & Business Services	Miscellaneous Services
1980-84	678.28	1873.90	123.56	69.96	387.82	1568.28	323.92
1985-89	1910.86	3450.80	127.04	112.14	478.38	3095.66	495.16
1990-94	12249.14	10344.54	705.46	372.26	1080.00	1751.44	9671.96
1995-99	58317.38	31913.26	1209.00	608.50	2512.26	6334.58	344980.16
2000-03	61435.95	40196.55	1209.00	1600.60	4261.88	12498.05	45115.33
2004-06	82867.83	149873.23	1209.00	6045.83	7456.17	29288.93	75331.27
2007-08	140497.14	229764.60	1397.22	11383.31	12702.54	50194.94	140370.13

Source: CBN Statistical Bulletin, 2005 & 2008.

2.7   Components of Net Capital Flow by Origin

The main components of net capital inflow are un-remitted profits, changes in foreign share capital (net), trade and suppliers credit (net), foreign liabilities to head office (net). Un-remitted profits from table 9 account for N34, 440.2 million in 2007, a far cry from N104.5 million in 1980 and the highest in the record.

Table 9: Components of Net Capital Flow by Origin (₦ 'Million)

Year	U.K	U.S.A	Western Europe	Others	Total
			Un-remitted Profit		
1980-84	131.58	36.72	47.64	30.56	246.50
1985-89	254.22	113.76	86.68	75.82	530.48
1990-94	595.18	356.74	410.66	438.82	1801.40
1995-99	1778.62	341.52	579.30	1364.76	4064.20
2000-03	2991.50	128.50	742.85	1062.80	4925.60
2004-06	8701.60	385.33	1591.40	8639.10	19317.37
2007-10	13596.6	688.0	2654.75	29649.7	29649.7

Source: CBN Statistical Bulletin 2005, 2008 & 2012

Table 10: Components of Net Capital Flow by Origin (₦ 'Million)

Year	U. K	U.S.A	Western Europe	Others	Total
Trade and Suppliers Credit (net)					
1980-84	148.68	6.02	64.84	6.18	225.72
1985-89	-6.12	392.64	308.16	9.58	256.42
1990-94	152.24	4125.10	2522.76	250.38	6752.38
1995-99	-613.36	462.26	3389.38	43.76	3282.00
2000-03	23.60	4048.33	11.85	39.48	4123.43
2004-06	75.23	1758.87	68.07	34.90	1936.97
2007-10	292.25	2662.45	106.15	141.85	3052.7

Source: CBN Statistical bulletin 2005, 2008 &2012

Table 11: Components of Net Capital Flow by Origin (₦ 'Million)

Year	U.K	U.S.A	Western Europe	Others	Total
Liabilities to Head Office (net)					
1980-84	102.20	-14.44	-3.40	1.38	225.72
1985-89	247.92	-6.74	-3.40	3.74	256.42
1990-94	88.70	-1617.74	-3.40	-95.86	752.38
1995-99	3148.63	288.38	-6.52	128.70	3282.00
2000-03	2.97	606.63	-45.1	-21.74	4123.43
2004-06	972.80	1998.73	8.03	390.13	3369.67
2007-10	1472.55	3195.6	12.75	905.2	5335.95

Source: CBN Statistical Bulletin 2005, 2008 & 2012

The "trade and suppliers (net)" is another component of net capital flow. The United States of America has the largest share of this component, its share is ₦2, 662.45 million between 2007 and 2010 and the total is ₦2, 856.12 million in 2010. This is followed by the United Kingdom with ₦250.2 million in the same year.

Another component is the "other foreign liabilities (net)" the country with the biggest share in this component is Western Europe with ₦215.2 million in 2010 and the country with the least figure is the United Kingdom ₦98.3 million.

The last component is "the Liabilities of Head Office (net)". United States of America has the biggest share of the total, it has ₦2, 631.6 million. It is followed by United Kingdom with ₦1, 212.7 million, other countries apart from Western Europe amounts to ₦815.7 million, Western Europe herself accounts for the least with ₦11.2 million, while the overall total gives ₦4,671.1 million, all these figures occur in 2010.

Table 12: Components of Net Capital Flow by Origin (₦ Million)

Year	U.K	U.S.A	Western Europe	Others	Total
1980-84	401.16	79.72	134.62	48.64	664.14
1985-89	629.02	-64.42	156.30	162.20	883.10
1990-94	1264.68	2559.38	4855.50	813.34	9302.90
1995-99	4005.00	1233.22	8876.00	2485.18	20399.36
2000-03	3230.75	1518.80	1276.98	976.43	6996.50
2004-06	10521.63	4360.43	16428.40	9730.30	29087.23
2007-10	15958.1	6336.6	6658.35	14817.05	43769.9

Source: CBN Statistical Bulletin 2005, 2008 & 2012

2.8   Sectoral Analysis of FDI Inflow in Nigeria

Although there has been some diversification into the manufacturing sector in recent years, FDI in Nigeria has traditionally been concentrated in the extractive industries. Table 13 shows the sectoral composition of FDI in Nigeria from 1986–2010. Data from the table reveal an initial increasing attention to the mining and quarrying sector, from about 19.18% in 1986-1990 to 41.7% in 1991-1995, and stood at 20.82% in 2006-2010.

On the average, the stock of FDI in manufacturing over the period of analysis compares favourably with the mining and quarrying sector, with an average value of 33.2%. The stock of FDI in trading and business services dropped sharply from 27.94% in 1986–1990 to 7.44% in 2006–2010

Table 13: Sectoral composition of FDI in Nigeria, 1986–2010 in Percentage

Mining & quarrying (M&Q), Manufacturing (MA), Agriculture (AG), Transport & communication (T&C), Building & construction (B&C), Trading & business (T&B), Miscellaneous services (Ms).							
Year	**M&Q**	**MA**	**AG**	**T&C**	**B&C**	**T&B**	**Ms**
1986-1990	19.18	40.76	1.62	1.38	5.16	27.94	3.98
1991-1995	30.2	36.18	1.9	1.32	4.54	5.52	20.3
1996-2000	41.7	23.7	0.86	0.48	2.04	5.38	25.84
2001-2005	31.92	31.1	0.62	1.32	2.38	7.82	24.94
2006-2010	20.82	34.04	0.21	1.69	1.88	7.44	28.6

Source: CBN Statistical Bulletin 2012.

Agriculture, transport and communications, and building and construction remained the least attractive hosts of FDI in Nigeria. However, according to CBN reports (CBN 2004: 72), the transport and communication sector seem to have succeeded in attracting the interest of foreign investors, especially in the telecommunication sector. Nigeria is currently described as the fastest growing mobile phone market in the world. Since 2001, when the mobile telecommunication operators were licensed, the rate of subscription has gone up and does not show any sign of abating; in fact, MTN (Nigeria) , Zain, Glo – the three leading mobile phone operators – have acquired more lines having oversubscribed the original line. The various operators are currently engaged in neck to neck competition that has forced the rates down and in the process fostered consumer satisfaction. The effect of this development is yet to be translated to the rest of the economy, however.

2.9 The Impact Summary of the Current Financial and Economic Crisis on Global FDI Flows

The unusual magnitude of the on-going crisis is raising major concerns about the future of the world economic outlook, especially as it relates to international investment. In this context, UNCTAD has complemented its estimates of foreign direct investment (FDI) inflows for the past year with the present note on the impact of the crisis on international investment.

In January 2009, UNCTAD in assessing the impact of the current financial and economic crisis on global FDI flows gave the following summary:

The year 2008 will mark the end of a growth cycle in international investment that started in 2004 and saw world foreign direct investment (FDI) flows reach a historic record of $1.8 trillion in 2007. Due to the impact of the ongoing worldwide financial and economic crisis, FDI flows could decline by more than 20 per cent in 2008. A further decrease in FDI flows can be expected in 2009, as the full consequences of the crisis on transnational corporations' (TNCs) investment expenditures will continue to unfold.

The fall in global FDI in 2008–2009 is the result of two major factors affecting domestic as well as international investment. First, the *capability* of firms to invest has been reduced by a fall in access to financial resources, both internally – due to a decline in corporate profits – and externally – due to lower availability

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and higher cost of finance. Second, the *propensity* to invest has been affected negatively by economic prospects, especially in developed countries that are hit by severe recession. The impact of both factors is compounded by the fact that, as of early 2009, a very high level of risk perception is leading companies to extensively curtail their costs and investment programmes in order to become more resilient to any further deterioration of their business environment. All of the three major types of FDI (market-seeking, efficiency-seeking, and resources-seeking) will be impacted by these factors, though with different magnitudes and consequences on location patterns.

The setback in FDI has particularly affected cross-border mergers and acquisitions (M&As), the value of which was in sharp decline in 2008 as compared to the previous year's historic high. It has also taken the form of a rising wave of divestments and restructurings. International Greenfield investments have been less impacted to this point, but could be increasingly affected in 2009 as a large number of projects are presently being cancelled or postponed.

However, the impact on FDI is different, depending on region and sector. Developed countries have so far been the most affected, with a decline in FDI inflows in 2008, due mainly to sluggish market prospects. Flows into developing economies (including Africa- Flows to *Africa* are expected to grow further to more than $60 billion, despite the slowdown in global economic growth and its negative consequences for the region) continued to grow in 2008, but at a much lower rate than the year before. An outright decline in FDI inflows to those countries is possible in 2009, due to a pull-back both in efficiency and resource-seeking FDI aimed at exporting to advanced economies that are currently depressed, and in market-seeking FDI aimed at servicing local markets with growth prospects that, although still positive, have receded.

Among industries, FDI flows to financial services, automotive industries, building materials, intermediate goods and some consumption goods have been the most significantly affected to date. But the consequences of the crisis are now quickly expanding to FDI in other activities, ranging from the primary sector to non-financial services.

In the short term, the negative impact of the present economic recession on global FDI prospects should be the dominant one. Medium-term FDI prospects are more difficult to assess, due to the exceptional magnitude of the present crisis

and to the fact that it could lead to major structural changes in the world economy. Nevertheless, some favourable factors for FDI growth are still at work, some of which are even a consequence of the crisis itself. Driving forces such as investment opportunities triggered by cheap asset prices and industry restructuring, large amounts of financial resources available in emerging countries, quick expansion of new activities such as new energies and environment-related industries, and a resilient trend in the internationalization of companies will presumably trigger, sooner or later, a new pickup in FDI flows.

The exact date of this upward switch will, however, depend on a series of uncertain factors such as the speed of economic and financial recovery, the efficiency of public policy in addressing the causes of the present crisis, the return of investor confidence and the ability to prevent protectionist tendencies. To illustrate those uncertainties and provide a framework for further discussion and analysis, it presents a set of three scenarios: V (quick recovery of FDI as soon as 2010), U (slow recovery beginning in 2011), and L (no recovery before 2012).

Public policies will obviously play a major role in the implementation of favourable conditions for a quick recovery in FDI flows. Structural reforms aimed at ensuring more stability in the world financial system, renewed commitment to an open environment for FDI, the implementation of policies aimed at favouring investment and innovation are key issues in this respect. For effectively dealing with the crisis and its economic aftermath, it is important for policymakers to resist the temptation of quick-fix solutions or protectionism, and to maintain an overall favourable business and investment climate.

In principle, the current crisis also provides opportunities of rising financial capital inflows into Africa as investors might look for strategies to diversify their risks and to explore opportunities for higher returns. In 2007, average returns on FDI in Africa were 12% higher than average returns on FDI for all developing countries together-which were around 10%.

It is important to note, however, that the bulk of FDI coming to Nigeria still goes into the primary resource extraction and communication sector. Alternative investment opportunities remain limited due to high cost of doing business in Nigeria, most especially in the availability of infrastructure. Therefore, high returns on FDI are also linked to the recent hikes in commodity prices.

We can therefore, conclude that the financial instability triggered by the United States sub-prime crisis which began in summer 2007 has led to a progressive deterioration of FDI flows. Despite the slowdown, however, FDI flows to Africa witnessed an increase unlike most of the advanced countries that actually experienced decline in FDI inflows in 2008. The crisis, however, has created an opportunity for a chance to implement efficient global policy responses, which will then enhance the stability of the financial system and stimulate economic growth.

CHAPTER THREE
LITERATURE REVIEW

3.1 Introduction

The literature review consists of three parts, namely: the theoretical, the methodological and the empirical literature. The theoretical and methodological literature will first be jointly presented as it is difficult to separate the theoretical from methodological literature, as the two have substantial overlaps.

3.2 Theoretical and Methodological Literature Review

The major part of the literature review is the theoretical and methodological literature, and it comprises several interwoven aspects relevant to this study, and which are taken into account in constructing our theoretical framework. We will start with the keynes' economy investment function.

Keynes (1936) pioneered the discovery of an independent investment function in the economy in contrast to the widespread belief that all available saving is automatically invested so far as the interest rate is "right". Keynes' chief insight was that investment is a function of the prospective marginal efficiency of capital relative to some interest rate reflecting the shadow cost of the invested funds. According to Keynes because of incomplete and uncertain information about private investment volatility in the future, potential investors would depend on their "animal spirits" in making their investment decisions rather than a rational calculation of an inherently indeterminate distant future.

Investment theories in the tradition of the Harrod Domar models emerged in the early 1950s and 1960s. This was the precursor to the familiar accelerator theory. This theory posts investment as a linear function of changes in output derived from a fixed proportion production technology. Thus, given an incremental capital output ratio (ICOR), it is easy to compute the investment requirements needed to achieve a given output growth target. In this model, profitability, expectations cost of capital considerations are ignored in the determination of investment.

Going by Harrod Domar standard growth model of the classical tradition, economic growth is a function of investment (both domestic and foreign savings). The model suggests that external capital only has the potential for augmenting domestic resources. And that inadequate domestic savings is the basic hindrance to investment growth. This conclusion has been challenged by many scholars (Rahman, 1968), who have

argued that external capital inflow would not increase investment growth when it substitutes for domestic savings. The "substitution thesis" says that higher inflow of external capital may lead to lower domestic savings, thus reducing available domestic resources for investment purposes. Also, this model did not distinguish between the different forms of external capital. External capital like Foreign Direct Investment and Aids do not have any direct cost on the economy of the receiving country, external loan has direct cost implications on the economy of the receiving country in the form of servicing and retirement.

A leading proponent of the economic approach to the determinants of foreign direct investment is Dunning. On the strength of studies of representative scholars engaged in international production, he identified three sets of influences on foreign direct investment. Dunning (1973)

- Market factors such as the size and growth of the market measured by the GNP of the recipient country.

- Cost factors such as the availability of labour, low labour costs and inflation

- The investment climate as measured by the degree of foreign indebtedness and the state of the balance of payments.

Expanding on the above, Dunning (1981) developed an eclectic theory of international direct investment based on the theories of industrial organization of location, and the firm. The general proposition is that the ability of a country to engage in international production depends on:

- Ownership specific advantages possessed (relative to enterprises of other nationalities).

- The incentives offered by the firms to internalize rather than externalize these owner specific advantages.

- The interest of the enterprises in exploiting these advantages in a foreign location.

Determinants of investments are based on the neoclassical theory of optimal capital accumulation pioneered by Jorgenson (1963, 1971). This framework supposes that a firm's desired capital stock is determined by factor prices and technology, assuming profit maximization, perfect competition and neoclassical production function. This theory provides an alternative to the earlier views of Keynes (1936) and Kalecki (1937) that fixed capital investment depends on firms' expectations of demand relative to existing capacity

and on their ability to generate investment funds (Fazzari and Mott, 1986; Fazzari and Athey, 1987).

However, the neoclassical assumption that any desired investment project can be financed has been challenged by several studies (see for instance, Kalecki 1937; Minsky, 1975; Myers and Majluf, 1984; Greenwald, Stiglitz and Weiss, 1984; and Fazzari and Athey, 1987). Thus, one of the important theoretical developments along this line was the introduction of irreversibility and uncertainty in explaining investment behaviour. This body of literature shows that the ability to delay irreversible investment expenditure can profoundly affect the decision to invest (Dixit, 1989; Pindyck, 1991). Firms have an incentive to postpone irreversible investment while they wait for new information which makes the future less uncertain (Cukieman, 1980; and Bernanke, 1983).

Basically, the development of the theory of FDI has followed two main approaches: location theory, which deals with the reasons underlying the choice of host country for foreign investment, and industrial organization theory, which is concerned with successful competition between domestic producers and foreign firms. Hymer (1976) provided a pioneering study and drew attention to the role of MNCs as global industrial organizations. He argued that FDI is more than a process by which assets are exchanged internationally. It also involves international production. His submission is that FDI represents not simply a transfer of capital, but the transfer of a "package" in which capital, superior managerial, administrative and marketing skills, new and advanced technology, access to low-cost funding and research and development capabilities are all combined. This theory was further extended by Caves (1971, 1974) and Kindleberger (1984).

Industrial organization theory builds on the theory of the firm by examining the structure of (and, therefore, the boundaries between) firms and markets. Industrial organization adds real-world complications to the perfectly competitive model complications such as transaction costs, limited information, and barriers to entry of new firms that may be associated with imperfect competition. It analyzes determinants of firm and market organization and behavior as between competition and monopoly, including from government actions.

There are different approaches to the subject. One approach is descriptive in providing an overview of industrial organization, such as measures of competition and the size-concentration of firms in an industry. A second approach uses microeconomic models to explain internal firm organization and market strategy, which includes internal research and development along with issues of internal reorganization and renewal. A third aspect is

oriented to public policy as to economic regulation, antitrust law, and, more generally, the economic governance of law in defining property rights, enforcing contracts, and providing organizational infrastructure.

Location theory of FDI highlights the advantages offered by a host country that makes it a candidate for FDI. These include access to local and regional markets, availability of comparatively cheap factors of production, competitive transportation and communications costs, the opportunity to circumvent import restrictions, and investments incentives offered by the host country (Cherry, 2001). These two strands of thought were brought together by Dunning (1988) in his eclectic theory of international production, in which three types of advantage must exist for a firm to engage in FDI; ownership-specific, location-specific and internalization-incentive advantages (OLI).

The assumptions underlining Location theory are:

1. The production process for particular goods is uniform, independent of locations. Producing corn requires a certain amount of a particular quality of land, farm machinery, chemicals, climate, etc. Therefore, some locations are more suitable for producing corn than others. Factors of production cannot be substituted for one another. For example, superior farm machines cannot substitute for scarce land to grow corn in a big city.

2. The demand for products is separated from the production, or supply of the products. Corn producers want to put the money they earn from farming into banks in cities. Bankers in cities want to consume agricultural goods. Therefore, transportation costs affect where goods are produced.

3. Factors of production are immobile. While some factors (capital, migrant workers) are in fact mobile, land and most natural resources are not. Theories based on these assumptions generate the clear prediction that, to minimize production and transportation costs, certain locations will specialize in the production of particular goods and services and ''export'' these goods to other locations.

Dunning (1993) identified resource-seeking, market-seeking, efficiency-seeking and strategic asset-seeking or capability-seeking as the four major motivations for FDI from industrialized countries. He opined that an investor may be influenced by more than one of these considerations, and the motivations for foreign production may change over time. Resource-seeking investors will locate subsidiaries abroad to secure a more stable or cheaper supply of inputs, especially raw materials and energy. The objective is to lower production costs and enhance competitiveness in domestic market as well as foreign

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markets. Market-seeking investors attempt to defend market positions already-established through exporting, or open up new markets for their goods and services in the host country and/or neighbouring countries. Usually, these firms are seeking a way around trade restrictions or a reduction in production, transaction or transport costs. In some cases, the move abroad by a major client of a MNC may prompt the investment in the interests of maintaining or expanding the existing business relationship. Efficiency-seeking investors attempt to rationalize their activities, aiming to produce in as few countries as possible, each with its own advantages in terms of location, endowments and government incentives, with a view to servicing a larger number of markets. Finally, firms engaging in strategic asset-seeking investment do so in order to maintain and enhance the firm's international position, with less concern about the particular advantages of a specific host country (Jenkins and Thomas, 2002).

While there seems to be some agreement on the determinants of investments in both developing and developed countries, the literature identifies some additional risk and uncertainty factors that tend to constrain investment in developing countries. These include inflation (Dombusch and Reynoso, 1989; Serven and Solimano, 1993 and Oshikoya, 1994), large external debt (Borensztein, 1990; Faruqee, 1992), credibility of policy changes during macroeconomic adjustment (Rodrik, 1989), level and variability of the real exchange rate (for example, Faruqee, 1992; Serven and Solimano, 1993, Jenkins and Thomas, 2002), terms-of-trade effect (Oshikoya, 1994) and political instability (Bleaney, 1993; Gamer, 1993; Root and Ahmed, 1979, Schneider and Fry, 1985); and lack or inadequate infrastructure and institutions (Asiedu, 2002, and Ajayi, 2004).

3.3 Review of the Methodology of Measurement, Deduction of Inferences, and Empirical Findings.

Dunning (1981) propounded a theory of outward and inward investment flows composed of four stages, which amplified in the process, the interaction between these factors and economic development and structural conditions (e.g. extent of industrialization) of the countries. For the purpose of formal statistical testing, the 67 countries were divided into three groups by cluster analysis (for the period 1967-1978), the dominant influence being GNP per capita. These countries were then subjected to a step wise multiple regression analysis in order to determine the most important factor: organization, internalization and location variables for outward, inward and net outward investment flows. The results were inconclusive because different variables have

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statistically significant influence, depending on the country cluster and the direction of the investment flows.

Agarwal (1980) while classifying foreign direct investment into its political and economic determinants, identified two political factors, political stability and the threat of nationalization, in conjunction with a variety of economic factors such as, investment incentives, the size and growth of the recipient's market, its degree of economic development (e.g. infrastructure), market distance and economic stability in terms of inflation, growth and balance of payments. In respect of the impact of political instability, his survey of the literature showed mixed evidence.

Root and Ahmed (1979) examined the determinants of non-extractive direct investment inflows for 70 countries. Using discriminant analysis, they tested whether sixteen economic variables-five social component (degree of education, size of the middle class, degree of modernization of outlook, strength of labour movement, extent of urbanization) and seven political factors (frequency of government change, number of internal and armed attacks, degree of administrative efficiency, degree of nationalism, per capita foreign aids, colonial affiliation and role of government in the economy) have any significant influence on invest flows.

In the study reviewed above, the authors looked at a broad variety of political influences, with emphasis still on economic factors. The statistical analysis found only six variables significant of which four are economic (per capita GDP, GDP growth rate, economic integration and importance of commerce, transport and communication); One social (degree of urbanization); and one political (the number of constitutional changes in government leadership). The stimulating effect of constitutional transfers of power in the host country on foreign direct investment relationship between political stability in a country and US foreign investment.

Levi's (1979) contribution also lays some emphasis on political factors. He tested the dual hypothesis that economic considerations are the prime determinants of foreign investment flows, and that political variables are of residual importance. The model used a step-by-step regression for 25 developing countries from three continents: Africa, Asia and Latin America. The economic variables turned out to be more important than the political ones.

All the studies but one (Dunning, 1981) reviewed above were pre-occupied with the determinants of foreign direct investment in developing countries. A respectable number of studies have similarly been conducted for developed countries particularly the

United States and the European Community e.g. Scapelanda and Balough (1983) and Lunn (1980).

In Nigeria, significant scholarly effort has gone into the study of the role of foreign direct investment in the Nigerian economy. Oyaide (1979) provides an excellent documentation of works conducted under the aegis of the Nigerian Economic Society. What follows draws substantially on this brilliant summary, and the work of Goldberg and Kolstad (1995) [as contained in the work of Adugna Lemi and Sisay Asefa (2001)].

Edozien (1968) is preoccupied with the linkages generated by foreign investment and their impact on Nigeria's economic development. Using descriptive analysis, he contends that foreign investment induces the inflow of capital, technical know-how and managerial capacity-all of which will accelerate the pace of economic development, while attenuating the pains and uncertainties that come with it. Furthermore, he observed that foreign investment could be counterproductive if the linkages they spur are neither needed nor affordable by the host country. Conclusively, he suggests that a good test of the impact of foreign investment on Nigeria's development is how rapidly and effectively it fosters local enterprises and innovates or modernizes.

Elsewhere, it was posited that foreign direct investment has both benefits and repercussions in the context of Nigeria's economic development (Langley, 1968). While FDI could engineer or accelerate GDP growth via the infusion of new techniques and managerial efficiency, Langley warns that it could also worsen the balance of payments position. Earlier, Olakampo (1962) had alluded to the negative fall out of FDI, when he argued that foreign aid in the forms of direct investment and portfolio investment impose a burden of repayment (capital outflow) on the recipient country. All these were done using descriptive analysis.

Oyaide (1977) concluded, using indices of dependence and development as a mirror of Nigeria's economic performance, that direct private foreign investment (DPFI) engineers both economic dependence and economic development. In his view, DPFI caused and catalyzed a level of development that would have been impossible without such investment albeit, at the cost of economic dependence.

Olopoenia (1983) explored the role of foreign capital inflow in the development process of underdeveloped countries via its impact on savings, and concluded that the effect of foreign investment on savings depends on the hypothesized savings relationship.

Elsewhere, Osaghae and Amenkhienan (1987) examined the relationship between oil exports, foreign borrowing and direct investment in Nigeria on the one hand and

economic growth on the other, and the impact of these on sectoral performance. They surmised that foreign borrowing and foreign direct investment impacted negatively on overall GDP, but positively on three principal sectors (manufacturing, transports and communication and finance and insurance).

Here, the empirical determinants of FDI are examined. It is noteworthy to mention that knowledge of the determinants of private domestic investment is relevant for an understanding of determinants of FDI. This is increasingly true given the current trend in globalization of world markets, although there remain additional factors which specifically inhibit or encourage FDI that would not affect domestic investment.

Asiedu (2002) contains a review of empirical studies which examine the determinants of flows of FDI to developing countries. The study found that not only is there a variation in the factors considered to be important determinant of FDI in Africa but different studies yield conflicting results with respect to the same factor. The study further noted that GDP per capita has a positive relationship with FDI in Schneider and Fry (1985), Tsai (1994) and Lipsey (1999); a negative relationship with FDI in Edwards (1990) and Jasperson et al (2000); and is insignificant in Loree and Guisinger (1995), Wei (2000) and Hausmann and Fernandez-Arias (2000). The Study also found that labour costs can have a positive impact on FDI (Wheeler and Mody, 1992); a negative impact (Schneider and Fry, 1985) and an insignificant effect (Tsai, 1994; Loree and Guisinger, 1995; Lipsey, 1999). Only two variables were found to have an unambiguously positive effect on FDI: the quality of infrastructure (in Wheeler and Mody, 1992: Kumar, 1994; Loree and Guisinger, 1995) and openness to international trade (in Edwards 1990; Gastanga et al, 1998; Hausmann and Fernandez-Arias, 2000). In her empirical analysis of whether differences exists between the factors that influence FDI in SSA vis-à-vis other developing countries, Asiedu (2002) found that the following variables are important determinants of FDI in SSA:

- Return on investment in the host country, measured by the inverse of the real GDP per capita
- Infrastructure development, measured by telephones per 1,000 population
- Openness of the host country, measured by the ratio of trade (imports+exports) to GDP
- Political risk, measured by the average number of assassination and revolutions
- Financial depth, measured by the ratio of liquid liabilities to GDP

- Size of government, measured by the ratio of government consumption to GDP
- Overall economic stability, measured by the inflation rate
- Attractiveness of host country's market, measured by the growth rate of GDP

Ngowi (2001) in a study of FDI in Africa points out that it is difficult to determine the exact quantity and quality of each of the determinants of FDI that should be present in a location to attract a given level of FDI inflow. With respect to African countries, the study identified high risk characterized by a lack of political, institutional and policy stability and predictability, poor access to world markets, price instability, high levels of corruption, small and stagnant markets and inadequate infrastructures as some of the important factors hindering FDI inflow in Africa.

There are a couple of survey-based studies of FDI in Africa with most of them identifying the same set of obstacles constraining FDI inflow in the region. For instance, Hess (2000) assessed the investment climate in each of the SADC economies and highlighted the most common factors constraining investment in this area. Among other prominent factors he identified are unstable political and economic environment; lack of transparency; inadequate infrastructure; inefficient and cumbersome bureaucratic which breed corruption; underdeveloped financial sectors; and low productivity. He affirmed that the most important factor in attracting significant levels of FDI is a stable macroeconomic and political environment. He noted that investors require as much certainty as possible about the trend of the economy for them to be willing to invest in such location.

Mowatt and Zulu (1999) reported the findings of a survey of South African firms investing within Eastern and Southern Africa. They found that regional (in this case, South African) investors are generally informed about the different economic conditions that exist across the region. For instance, South African investors highly rated the economic policy framework in Botswana, Mozambique and Namibia, but poorly in Zimbabwe. Financial factors such as exchange rate controls and variability, depreciation and high interest rates were barriers in Zimbabwe and, to a lesser extent, in Mozambique but not in Botswana and Namibia. On the other hand, transport infrastructure in Zimbabwe is rated highly, but not in Mozambique.

Wafure and Abu (2010) investigated the determinants of foreign direct investment in Nigeria, using error correction technique. Their results revealed that the market size of the host country, deregulation, political instability, and exchange rate depreciation are the main determinants of foreign direct investment in Nigeria.

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Focusing on Kenya, Elijah (2006) employed an econometric model to regress FDI on exogenous variables that include human capital, real exchange rate, annual inflation and openness of the economy. The author found that economic openness and human capital affect FDI inflows positively in the short-run.

The study by Loungani (2003) employed a gravity model of bilateral FDI and portfolio capital flow in order to explain determinants of the mobility of financial capital across countries. The study revealed that the industry specialization in the source countries, the ease of communications between the source country and the destination country (as measured by the telephone densities in each country), and debt equity ratios of publicly traded companies affect the flow of FDI.

In surveys aimed at identifying the most important factors shaping opinions on the investment climate in Mozambique, Tanzania, Uganda, Zambia and Zimbabwe, CREFSA-DFI (2000) found that investors in these countries tend to highlight commitment to liberalization and general macroeconomic stability as positive factors driving investment decisions. In contrast, negative factors for some of these countries include exchange rate volatility and inflation; unreliability of infrastructure; and weak governance.

Recent country-specific studies commissioned by the African Economic Research Consortium also found determinants of FDI in individual SSA countries to be consistent with the earlier works in this area (see Ajayi, 2004; Obwona and Egesa, 2004; Mwega and Ngugi, 2005; Siphambe, 2005; Khan and Bamou, 2005; Ogunkola and Jerome, 2005; Asante, 2005: Akinboade et al, 2005).

Empirical evidence that FDI generates positive spillovers for local firms is mixed (see Saggi, 2000). Some studies find positive spillover effects, some find no effects and some even conclude that there are negative effects (on the latter see Aitken and Harrison, 1999). This does not necessarily imply that FDI is not beneficial for growth (for a survey of FDI and growth in LDCs, see De Mello and Luiz, 1997). It may be that the spillovers are of a different nature. Aitken et al (1997), for instance, point to the importance of the entry of multinationals for reducing entry costs of other potential exporters. Moreover, FDI may also contribute to growth by means of an increase in capital flows and the capital stock.

Some recent studies have argued that the contribution of FDI to growth is strongly dependent on the circumstances in recipient countries. Balasubramanyam et al (1996) find that the effect on growth is stronger in countries with a policy of export promotion than in countries that pursue a policy of import substitution. In a very influential paper,

Borensztein et al (1998) suggest that the effectiveness of FDI depends on the stock of human capital in the host country. Only in countries where human capital is above a certain threshold does FDI positively contribute to growth.

Borensztein et al (1998) develop a growth model in which technical progress, a determinant of growth, is represented through the variety of capital goods available. Technical progress is itself determined by FDI as foreign firms encourage adoption of new technologies and increases the production of capital goods, hence increase variety. Thus, FDI leads to growth via technology spillovers that increase factor productivity. Certain host country conditions are necessary to ensure the spillover effects. In particular, human capital (an educated labour force) is necessary for new technology and management skills to be absorbed.

Where the issue is addressed, empirical studies consistently find a negative effect of uncertainty (measured in various ways) on investment. Serven (1998) used seven measures of uncertainty for five variables (such as growth, terms of trade) and found evidence for all having a negative impact on levels of private investment for a large sample of developing countries. As investment is a robust determinant of growth we hypothesize that uncertainty will have a negative impact on growth.

A number of papers have address aspects of risk and vulnerability in the context of the aid-growth relationship (and we note that investment is the principal mechanism through which aid enhances growth). Lensik and Morrissey (2000) argue that aid instability, measured as a residual of an autoregressive trend estimate of aid receipts can proxy for two forms of uncertainty that may be growth-reducing. First is recipient uncertainty regarding future aid receipts, which may have adverse effects on investment. Second, is economic uncertainty, as the incidence of shocks will tend to attract unanticipated aid, hence increase measured instability of aid flows. Lensik and Morrisey (2000) find that the coefficient on the aid instability measure is negative and significant and infer that economic uncertainty is growth- retarding. This result is robust for the sample of African countries and the full sample of developing countries.

This study identified variables causing uncertainty to the inflow of FDI into the Nigerian economy and the impact of these uncertainty variables to the inflow of FDI to the Nigerian economy

CHAPTER FOUR
THEORETICAL FRAMEWORK

4.1   Theoretical Foundation

Following the model developed by Goldberg and Kolstad (1995) [as contained in the work of Lemi and Asefa (2001)], which incorporates both the exchange rate and demand uncertainty, this study adopted the model, but augment it with the Nigerian economic characteristics. Foreign investors divide their production capacity across borders according to the distributions and correlations of exchange rate and demand shocks.

The profit function of a source country firm that produces only for a foreign market, with a combination of domestic capacity and foreign capacity is given by:

$$\Pi(qd, qf, e, \sigma) = e\,(p\,(q) + \delta)\,q - qd - eqf \qquad\qquad (1)$$

Where Π stand for expected profit, $p\,(q)$ is total demand in the host country for the product of affiliate firm, qd and qf are home and foreign capacity costs respectively, δ is demand shock, and e is exchange rate (local currency per foreign currency) of a host country. Typically, the firm decides the level of production both in the domestic market and abroad before uncertainty is resolved. The model becomes more complex when other factors are taken into account. For example, foreign firms invest in a given host country not only to produce and sell products in the host country market, but also to export products either back to the parent firm or to neighbouring countries.

From the above model, expected profit Π is a function of exchange rate and demand shock uncertainty and the correlation between the two. Therefore, level of production in the domestic market and abroad is a function of demand (price) and exchange rate uncertainties. As foreign firms cross boundaries, other factors pertinent for foreign investors include political instability and host country government policies; these factors are important because, in most cases, they treat foreign firms differently. Other macroeconomic determinants of investment, such as total and skilled labour force, market size and potential, cost of capital, productivity (technology), infrastructure, size of export sector, investors' confidence, and image of a host country in the international business community are commonly used control variables for the study of investment behaviour of multinational firms.

The traditional investment model is given by:

$$K_{it} = f (Y_{it}, IR_{it}) \hspace{8cm} (2)$$

i = I, …., N and t = 1, …., T (where i stands for sectors and t for time)

Where Kit is the desired capital stock, Yit is output and IRit is real user cost of capital in a host country. The basic model refers to the traditional determinants of investment for domestic investors. However, as seen in equation 1 a multinational firms' investment is affected by other host country characteristics, which alter exchange rate, and demand.

Therefore, this model is augmented based on the premise that in equation 1 both revenue and cost functions are subject to host country uncertainties and instabilities. Revenue is also affected by market size, degree of trade orientation and labour force of the host country. As indicated by Thomas and Worral (1994), other forms of uncertainty emanate from risk of expropriation, and can be guaranteed only through signing bilateral and/or multilateral investment guarantees to protect foreign investors. Baker (1999) reinforced the role played by the Multinational Investment Guarantee Agency (MIGA) to increase flow of FDI. The level of exchange rate becomes a determinant factor, as indicated by Campa (1993), for the case of FDI inflow to U.S., and also by Bacek and Okawa (2001) for Japanese FDI in Asia. There are not many empirical works that have addressed the roles of some of these uncertainty indicators and policies. Furthermore, robustness of their results to different host and source countries and industrial groups is questionable. This study tries to fill the empirical gap for the case of Nigerian economy and for disaggregated FDI by the major sub sectors of manufacturing and non-manufacturing.

The expected sign for the measure of uncertainty is not clear from economic theory. Positive sign implies that firms invest more in a foreign market to diversify production, use a market as a shock absorber, or to compete with rival competitor, which is a strategic motive. Cushman (1985) argued that uncertainty affects FDI positively, as multinational firms tend to serve foreign market through FDI than through export when investors start to worry about uncertainty. On the other hand, the theory of investment and option value imply that firms lower investment when there is uncertainty, due to high sunk

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cost which further delays investment. The predictions of these models seem not to have been tested in the context of the Nigerian economy. The purpose of this paper is to fill this gap.

4.2   Model Variables and Data

Definitions and sources of model variables are presented below. The period of analysis for the flow of FDI from all source countries is between 1970 and 2010. The variables used in the estimation are in annual frequency. The monthly inflation rate and real exchange rate series are used to compute uncertainty indicators. The explanatory variables are grouped into economic uncertainty, political instability and government policy, investor's confidence, domestic market size, potential and cost of capital, and size of export sector. Investors' confidence is proxy by two indicators: ratio of total external debt of a host country to Gross Domestic Product (GDP) (REDEBT).   Investors' confidence is expected to be high in cases where the debt burden is low, so that there is no future tax obligation on the business community to pay back the debt. The second indicator is the receipts from international tourist arrivals as a ratio to total exports.

It is difficult, if not impossible, to incorporate the different forms and objectives of policies that host countries have towards the flow of FDI. It is also argued that most policies designed by host countries may not be enforceable and do not address what foreign investors seek in guaranteeing security and benefits. Mostly initiated by source country, host countries sign bilateral and multilateral agreements to show their commitment and to secure their benefits and those of foreign investors. The number of Bilateral Investment Treaties (BIT) signed by a host country and membership in Multilateral Investment Guarantee Agency (MIGA) are used as proxies for government policy and commitment.

4.3 Econometric Methodology

This study addresses the role of economic uncertainty and political instability in affecting FDI flow to the Nigerian economy. The rate of inflation and the real exchange rate uncertainty, as well as political instability are expected to impede FDI flow to the Nigerian economy. Apart from these uncertainty indicators, host country economic policy parameters, investors' confidence, market size and potential size of export sector, labour

force availably, technology and infrastructure facilities are factors in deciding whether to invest in a country. These control variables are expected to contribute to the flow of FDI. Studies show the flow of FDI to African economies is to exploit cheap labour and a large export sector (mainly to extract resources) (Nnadozie, 2000; Allaoua and Atkin, 1993). It is evident from similar studies that the role of advanced communication infrastructure, and suitable policy environment is critical. By using proxy variables for the uncertainty indicators and other control variables, this study estimates FDI model for the Nigerian economy.

The following models are estimated:

$$Y_{it} = \beta_1 + \beta_2 INF_t + \beta_3 EXR_t + \beta_4 POLI_t + \alpha X_{it} \, \varepsilon_t \qquad (3)$$

Y_{it} is a vector (RNFDI, RUKFDI, RUSFDI, RWEFDi and RAGRIC, RMAN, RTRADE, RTRANS, RBUILD, RMQ) of dependent variables, which measures ratios of FDI to GDP of a host country, as well as ratio of FDI going into each sector as a ratio of GDP, INFVL is the inflation volatility, EXR is the variability in exchange rate, and POLI = political freedom indicator. X_{it} is a vector of explanatory variables that measure market size (GDPPC), investors' confidence indicators which are the ratio of external debt to GDP and tourism receipt in the country (REDEBT, RINTOUE), government policy and commitment (MIGA, BIT), cost of capital, which is the lending rate in the economy (RLR) and the size of export sector (REXPO).

A bilateral investment treaty (BIT) is an agreement establishing the terms and conditions for private investment by nationals and companies of one state in another state. Most BITs grant investments made by an investor of one Contracting State in the territory of the other a number of guarantees, which typically include fair and equitable treatment, protection from expropriation, free transfer of means and full protection and security. The distinctive feature of many BITs is that they allow for an alternative dispute resolution mechanism, whereby an investor whose rights under the BIT have been violated could have recourse to international arbitration, often under the auspices of the ICSID (International Center for the Settlement of Investment Disputes), rather than suing the host State in its own courts.

The world's first BIT was signed on November 25, 1959 between Pakistan and Germany. There are currently more than 2500 BITs in force, involving most countries in

the world. Influential capital exporting states, such UK, USA, Germany, usually negotiate BITs on the basis of their own "model" texts (such as the US model BIT).

While Multilateral Investment Guarantee Agency (MIGA) is an international financial institution which offers political risk insurance guarantees. Such guarantees help investors protect foreign direct investments against political and non-commercial risks in developing countries. MIGA is a member of the World Bank Group and is headquartered in Washington, D.C., United States. It was established in 1988 as an investment insurance facility to encourage confident investment in developing countries. MIGA's stated mission is "to promote foreign direct investment into developing countries to support economic growth, reduce poverty, and improve people's lives". The agency focuses on member countries of the International Development Association and countries affected by armed conflict. It targets projects that endeavour to create new jobs, develop infrastructure, generate new tax revenues, and take advantage of natural resources through sustainable policies and programs

MIGA offers insurance to cover five types of non-commercial risks: currency inconvertibility and transfer restriction; government expropriation; war, terrorism, and civil disturbance; breaches of contract; and the non-honouring of sovereign financial obligations. MIGA will cover investments such as equity, loans, shareholder loans, and shareholder loan guarantees. The agency may also insure investments such as management contracts, asset securitization, bonds, leasing activities, franchise agreements, and license agreements. The agency generally offers insurance coverage lasting up to 15 years with a possible five-year extension depending on a given project's nature and circumstances. When an event occurs that is protected by the insurance, MIGA can exercise the investor's rights against the host country through subrogation to recover expenses associated with covering the claim. However, the agency's convention does not require member governments to treat foreign investments in any special way. As a multilateral institution, MIGA is also in a position to attempt to sort out potential disputes before they ever turn into insurance claims.

Positive signs are expected for GDPPC, BIT, and MIGA. GDPPC is a measure of effective market size of the country, and foreign firms may sell products to domestic consumers, even though their goal is exporting to neighbouring markets. MIGA captures

commitment from the government side, and positive sign may imply investors take advantage of policies and government commitment (after controlling for political freedom indicator (POLI)]. Market potential is often measured by growth rate of GDP. Again, high growth rate may encourage investment, unless there is crowed out effect by domestic firms.

The main source of data except bilateral investment treaties, membership in multilateral investment guarantee, and political instability are taken from the Central Bank of Nigeria statistical bulletin and IMF data bank. Data on bilateral investment treaty and membership in multilateral investment guarantee agency is compiled from United Nations and World Bank Publications (UN, Bilateral Investment Treaties 1959 – 2012; World Bank, Convention Establishing the Multinational Investment Guarantee Agency (MIGA), 2008). The freedom House provided the political instability indicator (Freedom House, Annual Survey of Freedom Country Ratings 1970- 2010).

The variables are annual net total foreign direct investment (NFDI) from 1970 – 2010, annual consumer price index from 1970-2010, annual exchange rate from 1970-2010, and political freedom index for the Nigerian economy. Other control variables include economically growth rate of real gross domestic product per capita, dummy for periods of membership in Multilateral Investment Guarantee Agency (MIGA), number of bilateral investment treaties signed by the Nigerian government (BIT), external debt (REDEBT), and GDP per capita.

The following variables are used in the regression:

Dependent Variable

RNFDI   =   ratio of net foreign direct investment to gross domestic product

RUKFDI   =   ratio of net foreign direct investment from UK to gross domestic product

RUSFDI   =   ratio of net foreign direct investment from US to gross domestic product

RWEFDI   =   ratio of net foreign direct investment from Western Europe to GDP

RAGRIC   =   ratio of net foreign direct investment into Agriculture, Forestry and Fisheries

RMAN =   ratio of net foreign direct investment into Manufacturing and Processing

RTRADE   =   ratio of net foreign direct investment into Trading and Business Services

RTRANS   =   ratio of net foreign direct investment into Transport and Communication

RBUILD   =   ratio of net foreign direct investment into Building and Construction

RMQ   =   ratio of net foreign direct investment into Mining and Quarrying

Economic Uncertainty Indicators

INF   =   inflation volatility.

EXR   =   variability in exchange rate.

Investor's confidence indicator

REDEBT   =   ratio of total external debt to GDP

RINTOUE   =   receipts from international tourist arrivals as a ratio to total exports.

Domestic market size, cost of capital, technology and infrastructure

GDPPC   =   GDP per capita, which is given by GDP divided by total population of the country.

RLR   =   real lending rate defined as nominal lending rate minus inflation.

Political freedom and government commitment indicators

POLI   =   political freedom indicators measured on a one-to-seven scale, with one representing the highest degree of political freedom and seven the lowest.

MIGA   =   dummy variable for periods of membership in Multilateral Investment Guarantee Agency (MIGA); it takes value of 1 for the years that Nigeria signed agreement and 0 otherwise.

BIT   =   number of bilateral investment treaty.

Size of export sector indicator

REXPO   =   ratio of value of total export of goods and services to GDP.

CHAPTER FIVE
DATA ANALYSIS

5.1 Introduction

The period of analysis for the flow of FDI from all source countries is between 1970 and 2010. The variables used in the estimation are in annual frequency. The explanatory variables are grouped into economic uncertainty (which is measured by inflation rate volatility and exchange rate of naira to a dollar), political instability and government policy (this is captured by a political freedom [POLI], measure on a one-to-seven scale, with one representing the highest degree of political freedom and seven the lowest e.g. during the civil war, Nigeria political freedom was rated six. Also, a dummy variable for periods of membership in Multilateral Investment Guarantee Agency [MIGA]; it takes value of 1 for the years that Nigeria signed agreement and 0 otherwise. Finally, number of bilateral investment treaty), investor's confidence (investors' confidence is proxy by two indicators: ratio of total external debt of a host country to Gross Domestic Product [REDEBT]. Investors' confidence is expected to be high in cases where the debt burden is low, so that there is no future tax obligation on the business community to pay back the debt. The second indicator is the receipts from international tourist arrivals as a ratio to total exports. This is a good measure of investor's confidence but this is not readily available in Nigeria, the proxy used for this is the international air transport receipts[RINTOUE]), domestic market size, potential and cost of capital, technology and infrastructure (measured by GDP per capita [GDPPC] and real lending rate defined as nominal lending rate minus inflation[RLR]), and size of export sector (this is captured by ratio of value of total export of goods and services to GDP [REXPO]).

5.2 Data Analysis
5.2.1 Unit Root Test

Therefore, there is the need to carry out a unit root test to ascertain the level of serial correlation among all the variables. The results of the unit root test are presented in the table 5.1.1 below, using the Augmented Dickey Fuller (ADF). Most of the variables were stationary at first difference, with the exception of ratio of net foreign direct investment (RNFDI), ratio of foreign direct investment from Western Europe (RWEFDI) and real lending rate (RLR).

Table 14 UNIT ROOT TEST

Variable	Order of Integration	Percentage	Test
RNFDI	I(0)	1%	ADF
RUKFDI	I(1)	1%	ADF
RUSFDI	I(1)	1%	ADF
RWEFDI	I(0)	1%	ADF
ROTFDI	I(2)	1%	ADF
RAGRIC	I(1)	1%	ADF
RMAN	I(1)	1%	ADF
RTRADE	I(1)	1%	ADF
RTRANS	I(1)	1%	ADF
RBUILD	I(1)	1%	ADF
RMQ	I(1)	5%	ADF
BIT	I(1)	1%	ADF
EXR	I(1)	1%	ADF
GDPPC	I(1)	1%	ADF
INF	I(0)	1%	ADF
POLI	I(1)	1%	ADF
REDEBT	I(2)	1%	ADF
RLR	I(1)	1%	ADF
REXPO	I(2)	1%	ADF
RINTOUE	I(1)	1%	ADF

Source: Computed by the author

With the result of the unit root test, where some variables were not stationary at first difference, there is the need for a cointegration test. The cointegration test shows that some of the varables were cointegrated (the result is presented in the appendix). One econometric issue can be raised in estimation of this model and that is collinearity. Collinearity is due to the use of ratio of GDP and growth of GDP as regressors, which maybe correlated. One solution for the collinearity problem is to drop one of the correlated variables, but they were both important to the analysis of these models. In this study, the degree of collinearity obtained was 0.37, which shows that collinearity was not really a problem.

Having ascertained that some of the variables are not stationary after differentiating once, and that they are cointegrated, the stage is set to formulate an error correction model. The intuition behind the error correction model is the need to recover the long-run information lost by differencing the variables. The error correction model rectifies this problem by introducing an error correction term. The error correction term is derived from the long-run equation based on economic theory.

5.2.2 LONG RUN EQUATION

The long run equations for the model specified above is presented in the appendix. For each specification, eleven separate regressions were run with 10 different independent variables.

5.2.3 THE RESULT OF THE PARSIMONIOUS ERROR CORRECTION MODEL

The result of the parsimonious ECM for the eleven equations were presented in the tables 14 to 24 below. The Over-Parameterized model from which the parsimonious ECM emanated is presented in the appendix.

TABLE 15 RESULTS FROM THE ERROR CORRECTION MODEL FOR RNFDI

Variable	Coefficient	t-Statistic	Prob.
C	0.5295	1.0658	0.3034
Δ EXR	-0.4053*	-5.6842	0.0000
Δ EXR(-2)	-0.3445*	-4.7465	0.0003
Δ GDPPC(-2)	-0.0017	-1.1827	0.2553
Δ INF	-0.1641*	-4.6765	0.0003
Δ INF(-1)	0.2744***	2.1844	0.0452
Δ INF(-2)	-0.4448*	-4.7081	0.0003
Δ MIGA	7.3781**	2.5630	0.0216
Δ MIGA(-2)	-16.6459*	-4.6095	0.0003
Δ POLI	1.3494**	2.5542	0.0220
Δ POLI(-2)	-1.1343**	-3.0040	0.0089
Δ REDEBT	4.5881*	6.0317	0.0000
ΔREDEBT(-1)	-4.7335*	-5.5307	0.0001
ΔREDEBT(-2)	6.1569*	6.1387	0.0000
ΔREXPO	4.0761*	5.8565	0.0000
ΔREXPO(-1)	1.4924**	3.4238	0.0038
ΔRLR(-1)	0.3285***	2.6387	0.0186
ΔRLR(-2)	-0.3782**	-3.9809	0.0012
ΔBIT	4.4723**	3.2399	0.0055
ΔBIT(-2)	-1.1670	-1.2642	0.2255
ECM(-1)	-0.8057*	-5.1364	0.0001

Adjusted R^2 = 0.7969   Standard Error = 2.0101

F-Statistics = 7.8684   D-W Statistics = 1.8302

*, **, *** indicate significance at 1%, 5% and 10% respectively

Source: Computed by the author

The adjusted R^2 (0.80) of the estimated model shows that almost 80% of the variation in total FDI into Nigeria is explained by the combined effects of all the determinants while the F-Statistics (7.87) shows that the overall regression is significant at the 1% level. The value of Durbin Waston statistics (1.83) shows that the problem of serial corrrelation has been adequately taken care of. Also the ECM varaible (-0.81) is in line with the norms, it has a negative coefficient and it is significant 9with probability value of (0.0001) which shows that the analysis has a long-run relationship.

Exchange rate variability is a significant factor nagatively affecting the attraction of FDI into the Nigerian Economy to the tune of 41%. The lagged to second year is also significant and have slightly less effect. The lagged value of per capita is not in accordance with the a priori expectation and it is not significant, but the implication of the negative sign can be that economic growth or large market size can hinder the flow of foreign capital. One explanation may be that when the market gets saturated, then foreign investors see little future expansion of demand to enter the market. As explained in Lemi and Asefa (2001), Abekah (1998) argued that the negative sign implies that as GDP expands, some capital requirements are met locally, which leads to lower FDI flow. Inflation conform to the a priori expectation and it is significant. It has a negative effect of a magnitude of up to 16.5%. The first lag of inflation is also significant but did not conform with the a priori expectation and the magnitude is higher. This might mean that previous level of inflation encourages in-flow of FDI in the sense that price will be set factoring the previous inflationary level which will definately increase the profit margin. Signing pact with multi lateral investment agency is a positive factor that contribute to inflow of FDI. The second lag is showing an opposite direction and higher impact. The possible explanation for this is the policy summersault in this country. Our policies, most especially economic policies lack singular direction in this country. The *a priori* expectation for political freedom is negative but this is depicting positive sign and it is significant, but looking at the second lag value for political freedom, it is negative and significant. This confirms my earlier assertion when looking at response of foreign direct investment to the level of inflation, one will see that decision to invest in a country is always taken before the actual investment commences. That is why what is happening in the present does not necessarily affect inflow of FDI except it has been perceve before hand. Instead of debt servicing to be having negative impact on attracting FDI, it is exercising positive impact except for the first lag. This can be explained as debt burden tax not really being a problem in Nigeria, since government major source of income crude oil, foreign investors do not perceve

servicing of our external debt as a problem. Value of our export volume exercise positive impact and it is significant, this is in accordance to expectation. The cost of capital has mixed signal. The first lag that suppose to be negative is positive, while the second lag is negative. This can also be explained that the decision to inevst and all the necessary arrangement is always taking before the actual investment commence. Entering into Bilateral investment treaty also display mixed sign, but this has been explained earlier that the cause of this is the policy summersault by the government.

The result here shows that to attract FDI inflow into the Nigerian economy, there is the need to reduce the variability in exchange rate and inflation, intensify effort at diversifying the economy so as to increase our export volume and make more commitment into Multi-National Investment Guarantee Agency.

TABLE 16 RESULTS FROM THE ERROR CORRECTION MODEL FOR RUKFDI

Variable	Coefficient	t-Statistic	Prob.
Δ RUKFDI(-2)	0.4367***	2.6101	0.0216
Δ BIT	-0.0145	-1.7627	0.1014
Δ BIT(-1)	0.0114***	2.5004	0.0266
Δ BIT(-2)	0.0121***	2.0345	0.0628
Δ EXR	0.0011**	2.7432	0.0168
Δ GDPPC	0.0000*	-4.9663	0.0003
Δ GDPPC(-1)	0.0000**	-2.8285	0.0142
Δ INF	-0.0008**	-3.6440	0.0030
Δ INF(-1)	-0.0015***	-2.1235	0.0535
Δ INF(-2)	0.0002	0.8360	0.4183
Δ MIGA	0.1952*	4.7179	0.0004
Δ MIGA(-1)	-0.0767**	-2.4713	0.0281
Δ MIGA(-2)	0.0402***	1.8652	0.0849
Δ POLI	0.0071***	1.9584	0.0720
Δ REDEBT	-0.0111**	-2.7487	0.0166
Δ REDEBT(-1)	0.0060	1.2073	0.2488
Δ REDEBT(-2)	-0.0095*	-3.1241	0.0081
Δ RLR(-1)	-0.0016**	-2.3321	0.0364
Δ REXPO(-2)	-0.0069	-1.2041	0.2500
Δ RINTOUE	1.6150*	3.9443	0.0017
Δ RINTOUE(-1)	2.2902*	3.6203	0.0031
Δ RINTOUE(-2)	-2.0883*	-3.1656	0.0074
ECMUK(-1)	-0.8091*	-4.2847	0.0009

Adjusted R^2 = 0.5787　　　　Standard Error = 0.0145

D-W Statistics = 2.2908

*, **, *** indicate significance at 1%, 5% and 10% respectively

Source: Computed by the author

The adjusted R^2 (0.58) shows that the idependent variables in the error correction model explained almost 58% variation in the ratio of Foreign Direct Investment attracted from the United Kingdom. The Durbin Waston value (2.29) tends to be a little bit high but the standard error value shows that the analysis is not suffering from the problem of serial correlation. The ECM varaible is in line with the norms with a negative non zero value (-0.81) and it is significant with a probability value of 0.0009.

FDI coming from United Kingdom in a way is a function of previous investment from the region and that is why the lag value exercerbate positive value and it is significant. Bilateral investment treaty exercised a nagetive value although it is not significant. One explanation for this is that United Kingom was our colonial master who dominated our foreign market and any bilateral investment treaty we entered is taking our market away from their economy. The lagged value actually exercised the right sign. This is because with time they have come to realise that this is not doing any harm or because with time they can still infiltarate the economy to their benefit. Exchange rate is positive which means that instead of exchange rate discouraging FDI inflow from UK, it is rather encouraging it. This might be because of the nature of the investment as well as the international currency in use. Per capita is also exercising negative impact here which means that when the market gets saturated, then foreign investors see little future expansion of demand to enter the market. Inflation is exercising the right sign and it is significant, but the value is rather insignificant. So, inflation is not really a problem in attracting FDI from UK. While BIT is negative, MIGA is positive, this clearly diferentiates the importance of the two variables in this analysis. Level of political freedom is also not a problem to FDI coming from UK. This might also be explained by the kind of investment coming from UK. The UK knows us well and the kind of investment they bring to this country is always the safe type that cherry picks the economy. Debt servicing and cost of capital exercise the right sign. It is also significant but the value is small. Tourism also exercised the right sign and it is significant.

The result here shows that FDI inflow from UK shows no tolerance for inflation variability as well as government deficit finance. Government commitment to Multi-National Investment Guarantee Agency reinforce FDI inflow from UK as well as peaceful environment as indicated by investor's confidence indicator on tourism.

TABLE 17   RESULTS FROM THE ERROR CORRECTION MODEL FOR RUSFDI

Variable	Coefficient	t-Statistic	Prob.
C	-0.0071**	-3.3154	0.0128
Δ RUSFDI(-2)	0.7411*	5.1390	0.0013
Δ BIT	0.0034	0.8985	0.3988
Δ BIT(-1)	0.0043***	1.9804	0.0881
Δ BIT(-2)	-0.0060**	-2.1831	0.0653
Δ EXR	-0.0002	-1.5995	0.1538
Δ EXR(-1)	0.0004***	2.3460	0.0514
Δ GDPPC	0.0000**	-3.1432	0.0163
Δ GDPPC(-1)	0.0000**	3.2759	0.0136
Δ GDPPC(-2))	0.0000**	2.5068	0.0406
Δ INF(-1)	-0.0015*	-3.8167	0.0066
Δ INF(-2)	-0.0001	-0.9159	0.3902
Δ MIGA	0.0390**	2.6398	0.0334
Δ MIGA(-1)	-0.0149	-1.7580	0.1222
Δ MIGA(-2)	-0.0354**	-3.0738	0.0180
Δ POLI	-0.0015	-0.6387	0.5433
Δ POLI(-1)	0.0020	1.5357	0.1685
Δ POLI(-2)	-0.0031***	-2.2451	0.0596
Δ REDEBT(-2)	-0.0021	-1.6829	0.1363
Δ RLR	0.0005**	3.6120	0.0086
Δ RLR(-1)	-0.0016**	-3.9979	0.0052
Δ REXPO	0.0027**	2.1510	0.0685
Δ REXPO(-1)	-0.0039***	-2.3359	0.0522
Δ RINTOUE(-1)	-0.7816***	-2.0073	0.0847
ECMUS(-1)	-0.8988*	-5.3739	0.0010

Adjusted R^2 = 0.9293   Standard Error = 0.0054

F-Statistics = 3.8318   D-W Statistics = 2.0113

*, **, *** indicate significance at 1%, 5% and 10% respectively

Source: Computed by the author

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The adjusted R- square shows that the independent variables present in this model explained almost 93% variation in the ratio of FDI coming from the United States of America. The Durbin-Waston value (2.01) is okay and F-statistics (3.83) and the standard error values (0.005) are okay, which shows that the analysis is free from the problem of serial correlation. The ECM varaible is in line with the norms with a negative non zero value (-0.90) and it is significant with a probability value of 0.0010.

Foreign Direct Investment from US is also a function of its previuos investment as attested by its lagged value. The value of BIT is in accordance to expectation but it is not significant. The lagged values show mixed reaction. The first lag is positive while the second lag is negative. Exchange rate is in accordance to expectation but not significant. Its lagged value shows positive relationship but significantly small. Per capita income shows the right sign, and it is significant but the value is not different from zero. Inflation shows the right sign of negatively impacting on foreign direct investment coming from US. MIGA is also in consonance with expectation and significant, but its lagged value is in the other direction which emphasize regular roadmap changing by the government. Political freedom shows the right sign but the value is not significant. The lagged values show a mixed reaction. While the first lag is positive but not significant, the second lag is negative and significant. The lagged value of external debt shows the *a priori* expectation but the value is not significant. The value for cost of capital is significant but not in tandem with expectation, but the lagged value is in tandem with expectation. This might have to do with the type of investment coming from the US. Volume of export is in accordance to expectation but its lagged value is not, likewise the lagged value of tourism.

TABLE 18   RESULTS FROM THE ERROR CORRECTION MODEL FOR RWEFDI

Variable	Coefficient	t-Statistic	Prob.
C	0.7537**	3.0863	0.0273
Δ RWEFDI(-2)	-0.1566**	-2.8216	0.0370
Δ BIT	2.3045**	3.0955	0.0270
Δ BIT(-1)	-1.0810**	-2.6728	0.0442
Δ BIT(-2)	-0.2488	-0.5451	0.6091
Δ EXR	-0.4179*	-15.5407	0.0000
Δ EXR(-1)	0.0371	1.8590	0.1221
Δ EXR(-2)	-0.1832*	-6.5182	0.0013
Δ GDPPC	0.0008***	2.3111	0.0688
Δ GDPPC(-1)	0.0009***	2.2830	0.0713
Δ GDPPC(-2)	-0.0015***	-2.3998	0.0616
Δ INF	-0.6552*	-8.7394	0.0003
Δ INF(-1)	0.1119	1.8130	0.1296
Δ INF(-2)	-0.7696*	-9.0469	0.0003
Δ MIGA(-1)	6.3195**	4.8479	0.0047
Δ MIGA(-2)	-6.6130***	-2.4186	0.0602
Δ POLI	1.6614*	9.5885	0.0002
Δ POLI(-1)	0.1699	1.3985	0.2208
Δ POLI(-2)	-1.0990**	-5.5458	0.0026
Δ REDEBT	3.5081*	13.1504	0.0000
Δ REDEBT(-1)	-4.0145*	-8.7779	0.0003
Δ REDEBT(-2)	4.8413*	12.4889	0.0001
Δ RLR	-0.5077*	-6.1371	0.0017
Δ RLR(-1)	0.1225	1.9781	0.1048
Δ RLR(-2)	-0.6162*	-8.2123	0.0004
Δ REXPO	3.1643*	10.3153	0.0001
Δ REXPO(-2)	-0.9429**	-3.0836	0.0274
Δ RINTOUE	-49.4660***	-2.1904	0.0801
Δ RINTOUE(-1)	-120.4667**	-5.3535	0.0031
Δ RINTOUE(-2)	103.1367**	4.4000	0.0070
ECMWE(-1)	-1.3566*	-16.4701	0.0000

Adjusted R^2 =   0.9938   Standard Error = 0.4992
F-Statistics =   188.4338   D-W Statistics = 2.0828
*, **, *** indicate significance at 1%, 5% and 10% respectively
Source**:** Computed by the author

For foreign direct investment coming from Western Europe, the variables in the model are able to explain almost 100% of factors affecting the flow. The Durbin-Waston value of 2.08 shows that the analysis is free from the problem of serial correlation. The F-Statistics is a little bit high but the Standard Error correction value of 0.4992 shows that the model performance is relatively okay. The ECM varaible is in line with the norms with a negative non zero value and it is significant with a probability value of 0.0000, but it is greater than 1 which is not supposed to be so.

In this analysis, the second lagged value of the dependent value displayed a negative relationship, which shows that investment from this region tends to discourage further investment from this region into our economy. Bilateral Investment treaty proxy exercised the right sign. Likewise, the lagged value exhibits the opposite sign, reinforcing the earlier assertion of regularly changing the roadmap by the government. Exchange rate displayed the right sign but its lagged value display opposite directional magnitude but it is not significant. Per capita display the right sign and it is significant. So also the value of inflation. Also the first lagged value of inflation display opposite direction. The first lagged value of membership in Multilateral Investment agreement display the right sign but the second lagged value display the opposite sign. Value of political freedom that is supposed to display negative relationship did not display this until the second lagged value. This also reinforced our earlier assertion that commitment is always preceeding the actual investment. Once the company has given the go ahead to invest, there are so many things already attached, they do not get in a hurry to call off the investment. External debt displayed an opposite sign except the first lagged value, which shows that foreign firms do not perceive external debt servicing as a problem in Nigeria. Likewise the cost of capital displayed the right sign except the first lag. Volume of export is also in agreement with expectation except the lag value. Here, the variable for tourism displayed the opposite sign, this is beyond explanation.

TABLE 19   RESULTS FROM THE ERROR CORRECTION MODEL FOR ROTFDI

Variable	Coefficient	t-Statistic	Prob.
C	-0.0029	-1.3058	0.2161
D(ROTFDI(-1))	-2.3512*	-4.8774	0.0004
D(BIT)	-0.0487*	-5.9388	0.0001
D(BIT(-2))	0.0361*	6.2458	0.0000
D(EXR)	0.0047*	6.6411	0.0000
D(EXR(-1))	-0.0028*	-4.9070	0.0004
D(GDPPC)	0.0000**	-2.4212	0.0322
D(GDPPC(-1))	0.0000**	-4.3137	0.0010
D(GDPPC(-2))	0.0000***	-1.9238	0.0784
D(INF(-1))	-0.0004**	-3.2344	0.0072
D(INF(-2))	0.0040*	6.7076	0.0000
D(MIGA)	0.0975*	4.8744	0.0004
D(MIGA(-2))	0.0585**	3.9950	0.0018
D(POLI(-2))	-0.0044**	-2.3715	0.0353
D(REDEBT)	-0.0527*	-6.6890	0.0000
D(REDEBT(-1))	0.0624*	6.0444	0.0001
D(REDEBT(-2))	-0.0351*	-6.4591	0.0000
D(RLR)	0.0005**	2.9372	0.0124
D(RLR(-2))	0.0035*	6.5098	0.0000
D(REXPO)	0.0108*	4.9138	0.0004
D(REXPO(-1))	0.0163*	5.2491	0.0002
D(REXPO(-2))	0.0295*	4.8466	0.0004
D(RINTOUE(-1))	1.9121*	4.4712	0.0008
ECMROT(-1)	-0.2138	-0.6601	0.5217

Adjusted R^2 = 0.8198   Standard Error = 0.0080
F-Statistics =   7.9208   D-W Statistics = 2.0527
*, **, *** indicate significance at 1%, 5% and 10% respectively
Source: Computed by the author

The adjusted R-square is 82%, which shows that the model is able to explain 82% of factors affecting flow of FDI from other countries (such as China, other African countries etc). The Durbin - Waston value (2.05) shows that the analysis is free from the problem of serial correlation. The F -Statistics (7.92) shows that the model performed well. All these show that the model is well specified and the result is well behaved. The ECM variable is in line with the norms with a negative non zero value (-0.21) but the value is not significant with a probability value of 0.5217.

In this analysis, the first lagged value of the dependent value display a negative relationship, which shows that investment from this region, instead of reinforcing further investment from these regions tends to impact negatively on further investments from these regions into our economy. Bilateral Investment treaty proxy did not exercise the right sign, but the second lagged value displayed the right sign and the value is significant, likewise the exchange rate volatility. It is the first lagged value that displayed the right sign. The value itself shows a positive relationship which is not in accordance with the *a priori* expectation. The proxy for cost of capital and its lagged values shows that they have no impact on FDI from these regions with a zero value in it all. The first lagged value of inflation displayed the right sign but its second lagged value displayed the opposite sign. MIGA and its second lagged value display the right signs of positively impacting investment from these regions, and the values are significant. The second lagged value of proxy for political freedom also displayed the proper sign of negatively impacting on investment. Likewise the real ratio of external debt value is showing mixed reaction. The real value displayed the *a priori* sign as well as the second lagged value, but the first lagged value display positive relationship which re-inforce ealier assertion that debt burden is not a problem in Nigeria. Interest rate did not display the right sign, instead of being negative, it is displaying positive relationship. The investors confidence which we use, that is, ratio of real export and receipt from tourism, displayed the right sign of positively impacting on investment from these regions.

So far, we have been looking at the countries where the foreign direct investment come from and see how our identified factors of uncertainty affect the flow of FDI from these countries. Now, we want to shift our attention to the sub-sectors of the economy in which these investments are coming into, to see which of our identified factors is affecting investment into each sectors of the economy and how. We will begin the sectoral analysis with the Agricultural sector, then we will examine the manufacturing sector, before moving

to trade. From trade we will move to the transport sector, then building and construction and finally mining and quarrying.

TABLE 20   **RESULTS FROM THE ERROR CORRECTION MODEL FOR**

RAGRIC

Variable	Coefficient	t-Statistic	Prob.
Δ RAGRIC(-1)	0.9092*	5.8975	0.0000
Δ RAGRIC(-2)	0.3826***	2.4909	0.0259
Δ BIT	-0.0006***	-2.1582	0.0488
Δ EXR	0.0000***	-1.8329	0.0882
Δ EXR(-1)	0.0000**	2.7878	0.0145
Δ EXR(-2)	0.0000**	-2.1034	0.0540
Δ GDPPC	0.0000*	-4.9027	0.0002
Δ GDPPC(-1)	0.0000**	3.6184	0.0028
Δ GDPPC(-2)	0.0000	-1.4092	0.1806
Δ INF	0.0001***	2.4568	0.0277
Δ INF(-1)	0.0000	-1.6244	0.1266
Δ MIGA	0.0010	1.5547	0.1423
Δ POLI	0.0002	1.6217	0.1272
Δ POLI(-2)	-0.0003***	-2.5708	0.0222
Δ REDEBT	0.0003	1.5628	0.1404
Δ REDEBT(-2)	0.0003	1.5848	0.1353
Δ RLR	0.0001**	3.1894	0.0066
Δ REXPO	0.0004**	2.5290	0.0241
Δ REXPO(-1)	0.0002	1.4414	0.1715
Δ REXPO(-2)	0.0005***	2.0032	0.0649
Δ RINTOUE(-2)	0.0436**	3.5839	0.0030
ECMAGRIC(-1)	-1.0408*	-6.3255	0.0000

Adjusted R^2 = 0.7218   Standard Error = 0.0005

D-W Statistics = 2.0908

*, **, *** indicate significance at 1%, 5% and 10% respectively

Source: Computed by the author

The adjusted R-Square is 72.2% which shows that the model is able to explain 72.2% of factors affecting flow of FDI into the Agricultural sector. The Durbin-Waston value of 2.09 shows that the analysis is free from the problem of serial correlation. The Standard Error value of 0.0005 is also lending credence to the model that the model performed excellently well. The ECM is also negative and significant.

The lagged value of real ratio of agriculture, forestry and fisheries shows positive impact, which means that its lagged value is re-inforcing the attraction of investment in this sector. The Bilateral Investment Treaty (BIT) is showing opposite signal which means that instead of BIT re-inforcing investment in the Agricultural sector, it is impacting it negatively. The value of exchange rate volatility and GDP per capita is zero, which shows it has no influence on the dependent variable (Agriculture). Inflation is also not significantly different from zero with a value of 0.0001. MIGA shows the right sign but the value is also small (0.0010). The level of political freedom is showing a mixed reaction. The actual value of political freedom shows a wrong sign while the first lagged value shows the right sign of inverse relationship between attracting FDI into the economy and the level of political freedom. The ratio of real external debt also shows positive relationship which confirm our earlier assertion that external debt does not deter FDI in Nigeria. Interest rate is also showing opposite sign. This might be that foreign direct investment in Agriculture are not sourcing for funds in the local market. Real export and proxy for tourism conform to the *a priori* expectation.

This result shows that in attracting FDI into Agricultural sub-sector in Nigeria, two factors are prominent. These factors are commitment to Multi-National Investment Guaranty Agency (MIGA) and diversification of the economy to boost export (REXPO).

TABLE 21   RESULTS FROM THE ERROR CORRECTION MODEL FOR

RMAN

Variable	Coefficient	t-Statistic	Prob.
Δ RMAN(-1)	0.4633**	3.5241	0.0037
Δ RMAN(-2)	0.6184*	4.7960	0.0003
Δ BIT	-0.0294*	-4.6270	0.0005
Δ EXR(-1)	0.0016*	4.5794	0.0005
Δ EXR(-2)	-0.0028*	-7.1108	0.0000
Δ GDPPC	0.0000*	-4.5321	0.0006
Δ GDPPC(-2)	0.0000**	3.4956	0.0039
Δ INF	-0.0015**	-2.7479	0.0166
Δ INF(-1)	-0.0012***	-2.0503	0.0611
Δ MIGA	0.0783*	4.5425	0.0006
Δ MIGA(-1)	-0.0540**	-2.6351	0.0206
Δ MIGA(-2)	0.0479**	2.7057	0.0180
Δ POLI(-1)	0.0031	1.4598	0.1681
Δ REDEBT(-2)	0.0284*	6.5283	0.0000
Δ RLR	-0.0008	-1.5298	0.1500
Δ RLR(-1)	-0.0014***	-2.5984	0.0221
Δ RLR(-2)	0.0003**	2.2131	0.0454
Δ REXPO	0.0184*	5.7303	0.0001
Δ REXPO(-1)	0.0024	0.8322	0.4203
Δ REXPO(-2)	0.0109**	2.4640	0.0285
Δ RINTOUE	0.9237**	3.7943	0.0022
Δ RINTOUE(-2)	-0.8764***	-1.9350	0.0750
ECMMAN(-1)	-1.2091*	-8.0738	0.0000

Adjusted R^2 = 0.8795   Standard Error = 0.0103

D-W Statistics = 1.9115

*, ******, ******* indicate significance at 1%, 5% and 10% respectively

Source**:** Computed by the author

The adjusted R-Square is 88.0% which shows that the model is able to explain 88.0% of factors affecting flow of FDI into the Manufacturing and processing sector. The Durbin-Waston value of 1.91 shows that the analysis is free from the problem of serial correlation. The Standard Error value of 0.0103 is also lending credence to the model that the model performed well. The ECM is also negatively non zero and significant.

The lagged value of real ratio of investment in Manufacturing and processing sector shows positive impact, which means that its lagged value is re-inforcing the attraction of investment in this sector. The Bilateral Investment Treaty (BIT) is showing opposite signal which means that instead of BIT re-inforcing investment in the Manufacturing sector, it is impacting negatively on it. The lagged value of exchange rate volatility displayed mixed reaction while the first lag displayed positive relationship and the second lag displayed inverse relationship. GDP per capita and its lagged value displayed the proper sign, likewise inflation and MIGA with their lag value also displaying the right sign. Only the first lag value of MIGA displayed opposite reaction. The lag value of POLI also displayed contrary sign to the *a priori* expectation. The lagged value of real external debt ratio also displayed positive relationship which shows that external debt is not being perceived as a threat to investment in the manufacturing sub-sector. Cost of capital and ratio of real export displayed the proper sign with the exception of second lag value of interest rate. Finally, the proxy for tourism shows the right sign, while the lagged value of proxy for tourism display the opposite sign.

This result shows that FDI into the manufacturing sub-sector of the economy exhibits no tolerance for inflation variability (INF), government commitment to Multi-National Investment Guarantee Agency (MIGA), reducing the cost of capital (RLR), diversifying the economy to boost export (REXPO), and positioning the economy for tourist attraction.

TABLE 22   RESULTS FROM THE ERROR CORRECTION MODEL FOR RTRADE

Variable	Coefficient	t-Statistic	Prob.
Δ BIT	-0.0032	-1.4243	0.1724
Δ EXR	0.0005**	3.7471	0.0016
Δ EXR(-1)	0.0002	1.1739	0.2566
Δ EXR(-2)	0.0002	1.4285	0.1713
Δ GDPPC	0.0000*	-4.0628	0.0008
Δ INF	-0.0007**	-2.3057	0.0340
Δ INF(-1)	-0.0004	-1.6611	0.1150
Δ INF(-2)	-0.0002**	-2.3838	0.0291
Δ MIGA	0.0361**	3.6883	0.0018
Δ MIGA(-2)	0.0129	1.6248	0.1226
Δ POLI	0.0017	1.6268	0.1222
Δ REDEBT	-0.0028**	-2.8277	0.0116
Δ REDEBT(-2)	-0.0027**	-2.8527	0.0110
Δ RLR	-0.0005	-1.5724	0.1343
Δ RLR(-1)	-0.0005***	-1.9751	0.0647
Δ RINTOUE	0.2794**	2.3359	0.0320
Δ RINTOUE(-1)	0.1731	1.2490	0.2286
Δ RINTOUE(-2)	-0.1542	-1.3146	0.2061
ECMTRADE(-1)	-0.9002*	-4.8322	0.0002

Adjusted R^2 =   0.6667   Standard Error = 0.0054

D-W Statistics = 1.8107

*, **, *** indicate significance at 1%, 5% and 10% respectively

Source: Computed by the author

The adjusted R-Square is 66.7% which shows that the model is able to explain 66.7% of factors affecting the flow of FDI into the Trade and Business Services sector. The Durbin-Waston value of 1.81 shows that the analysis is free from the problem of serial correlation. The Standard Error value of 0.0054 is also lending credence to the model that the it performed well. The ECM is also negative and significant with a value of -0.9002 and probability value of 0.0002.

The Bilateral Investment Treaty (BIT) is showing negative sign which means that instead of BIT re-inforcing investment in the Trade and Business Services sector, it is impacting it negatively. Exchange rate volatility and its lagged value displayed a sign contrary to the *a priori* expectation. When exchange rate volatility is supposed to be impacting negatively in attracting foreign direct investment into this sector, it is actually encouraging it. GDP per capita is zero, so it does not influence FDI other than the fact that it has the proper sign. Inflation and MIGA with their lagged value displayed the proper sign. Here, proxy for level of political freedom which is supposed to have an inverse relationship also displayed contrary sign to the *a priori* expectation. Ratio of real external debt, interest rate, tourism and their lag values with the exemption of second lag value of proxy for tourism, display appropriate sign.

The result here also shows that FDI into Trade and Business Services sub-sector of the economy exhibit no tolerance for inflation variability (INF), Government commitment to Multi-National Investment Gurantee Agency (MIGA), diversifying the economy to boost export as well as positioning the country for tourist attraction.

TABLE 23   RESULTS FROM THE ERROR CORRECTION MODEL FOR RTRANS

Variable	Coefficient	t-Statistic	Prob.
D(RTRANS(-1))	-0.2222	-1.5379	0.1680
D(RTRANS(-2))	-0.4693**	-3.8638	0.0062
D(INF)	0.0006**	2.4158	0.0464
D(INF(-1))	0.0011*	5.2850	0.0011
D(INF(-2))	0.0011*	5.5161	0.0009
D(RLR)	0.0005**	2.4404	0.0447
D(RLR(-1))	0.0011*	5.1645	0.0013
D(RLR(-2))	0.0010*	4.9444	0.0017
D(BIT(-2))	0.0035	1.6848	0.1359
D(MIGA)	-0.0104	-1.8615	0.1050
D(MIGA(-1))	-0.0046	-0.8143	0.4423
D(MIGA(-2))	-0.0144***	-2.0090	0.0845
D(POLI)	-0.0012	-1.2466	0.2527
D(POLI(-1))	-0.0043*	-7.2033	0.0002
D(POLI(-2))	-0.0043*	-4.3987	0.0032
D(EXR)	-0.0002	-1.8213	0.1114
D(EXR(-1))	-0.0001	-1.5643	0.1617
D(EXR(-2))	-0.0003**	-3.9278	0.0057
D(GDPPC)	0.0000	0.9530	0.3723
D(GDPPC(-1))	0.0000**	-3.1596	0.0159
D(REDEBT)	0.0042**	3.3739	0.0119
D(REDEBT(-1))	-0.0032**	-2.4183	0.0462
D(REXPO)	-0.0026	-1.6784	0.1372
D(REXPO(-1))	-0.0006	-0.9201	0.3881
D(REXPO(-2))	0.0038**	3.7816	0.0069
D(RINTOUE)	0.1501	1.2163	0.2633
D(RINTOUE(-1))	0.1971	1.3331	0.2242
D(RINTOUE(-2))	0.2874**	2.5795	0.0365
ECMTRANS(-1)	-0.6162**	-4.7033	0.0022

Adjusted R^2 =   0.8347   Standard Error = 0.0027

D-W Statistics = 1.6877

*, **, *** indicate significance at 1%, 5% and 10% respectively

Source: Computed by the author

The adjusted R-Square is 83.5% which shows that the model is able to explain 83.5% of factors affecting the flow of FDI into the Transport and Communication sector. The Durbin-Waston value of 1.69 is rather low to say that the analysis is free from problem of serial correlation. The Standard Error value of 0.0027 is lending credence to the model that the model performed well, the only 'but' is the Durbin-Waston value. The ECM is also negative and significant with a value of -0.6162 and probability value of 0.0022. The explanation of this model analysis will have to be with caution since the Durbin-Waston value is not within the acceptable range of 1.8 and 2.2.

In this analysis, the lagged value of the dependent variable displayed a negative relationship, which shows that investment into transport and communication sector is impacting negatively instead of reinforcing further investment. Inflation, and cost of capital and their lagged values also display positive relationship when we are expecting it to display negative relationship. The lagged value of Bilateral Investment treaty proxy display the right sign but the value is not significant. MIGA (Membership of Investment Guarantee Agency) and its lagged values also display negative sign, but the values are not significant except for the second lag value. Political freedom and its lagged value shows the right sign but the actual value of political freedom is not significant. Likewise the exchange rate volatility, and its lagged value display the right sign, but most of the values are not significant. GDP per capita and its lagged values shows that they have no impact on FDI into this sector with a zero value in it all. Real external debt shows mixed signal with the actual value displaying positive sign and its first lag value displaying the *a priori* expectation sign and they are both significant. Likewise export, the actual value and its first lag shows negative impact while its second lag display positive sign in accordance to the *a priori* expectation. Although proxy for tourism is not significant, it shows the right sign with its lagged value.

It is only one factor that stand out in Transport and Communication sub-sector of the economy and that is tourist attraction (RINTOUE). The result of other variables exhibit inappropriate sign or not significant.

TABLE 24   RESULTS FROM THE ERROR CORRECTION MODEL FOR RBUILD

Variable	Coefficient	t-Statistic	Prob.
Δ (RBUILD(-1))	0.4409**	3.1774	0.0041
C	0.0008***	2.0159	0.0551
D(BIT(-1))	-0.0006	-1.2041	0.2403
D(EXR(-1))	0.0000	1.5699	0.1295
D(GDPPC(-2))	0.0000**	-2.5389	0.0180
D(INF)	-0.0002***	-1.9726	0.0602
D(INF(-2))	0.0000***	-1.7289	0.0967
D(REDEBT)	0.0003	1.3117	0.2020
D(RLR)	-0.0002***	-1.7717	0.0891
D(RINTOUE)	-0.0659***	-1.9366	0.0647
D(RINTOUE(-2))	0.0915**	2.2100	0.0369
ECMBUILD(-1)	-1.7699*	-5.4569	0.0000

Adjusted R^2 =   0.7461   Standard Error = 0.0018

F-Statistics = 6.4102   D-W Statistics = 2.2308

*, **, *** indicate significance at 1%, 5% and 10% respectively

Source: Computed by the author

The adjusted R-Square is 74.6% which shows that the model is able to explain 74.6% of factors affecting the flow of FDI into Building and Construction sector. The Durbin-Waston value of 2.23 is still not too high, which shows that the analysis is free from problem of serial correlation. The Standard Error value of 0.0018 and F-Statistics of 6.41 is also lending credence to the model that the model performed well. The ECM is also negative and significant.

The first lagged value of investment in Building and Construction sector shows negative impact while the second lag display positive relationship but its value is not significant, this can be interpreted that its second lagged value is re-inforcing the attraction of investment in this sector with caution, while the first lag is not. Inflation displayed the appropriate sign but its not significant while its lagged value is displaying positive relationship and it is significant. Cost of capital is in accordance to expectation, but its lagged values were not. BIT (Bilateral Investment Treaty) display mixed reaction. While the first lag shows inverse relationship, the second lag display positive relationship. For MIGA, the mixed reaction is the other way round. While the first lag display positive relationship, the second lag display negative relationship. Political freedom display the *a priori* sign except its second lag value. For exchange rate volatility,the actual value display positive relationship, while the second lag display negative relationship. GDP per capita is not a variable impacting the dependent variable in this model because the value is zero, with its lagged values. External debt also display mixed reaction with the first lag displaying the right sign of inverse relationship, while the second lag display positive relationship. Ratio of export though not significant display the right sign. The first lag of ratio of export also display the same sign and it is significant. Proxy for tourism display *a priori* expectation of positive relationship and it is significant but its lagged value show opposite sign.

The result for Building and Construction shows that to attract FDI into this sub-sector of the economy, Inflation variability (INF) must be reduced as well as cost of capital (RLR).

TABLE 25   RESULTS FROM THE ERROR CORRECTION MODEL FOR RMQ

Variable	Coefficient	t-Statistic	Prob.
Δ RMQ(-1)	0.3464**	2.6627	0.0186
Δ RMQ(-2)	0.5899**	4.0773	0.0011
Δ BIT	-0.0166***	-1.7858	0.0958
Δ EXR(-1)	0.0023**	3.5926	0.0029
Δ EXR(-2)	-0.0004	-1.3368	0.2026
Δ GDPPC	0.0000**	-4.0170	0.0013
Δ INF	-0.0041**	-2.6441	0.0193
Δ INF(-1)	-0.0053*	-4.3454	0.0007
Δ INF(-2)	-0.0054**	-3.7048	0.0024
Δ MIGA	0.2134*	4.9668	0.0002
Δ MIGA(-1)	-0.0849**	-2.2738	0.0392
Δ MIGA(-2)	0.1080**	3.1143	0.0076
Δ POLI	0.0180**	3.6541	0.0026
Δ REDEBT	0.0106**	2.8884	0.0119
Δ REDEBT(-1)	-0.0066	-1.7181	0.1078
Δ RLR	-0.0040**	-2.6804	0.0179
Δ RLR(-1)	-0.0055*	-4.6719	0.0004
Δ RLR(-2)	-0.0054**	-3.8922	0.0016
Δ RINTOUE	1.3686**	2.9484	0.0106
Δ RINTOUE(-1)	1.5883**	2.9712	0.0101
Δ RINTOUE(-2)	-2.9162**	-4.0041	0.0013
ECMMQ(-1)	-1.0833*	-7.1629	0.0000

Adjusted R^2 =   0.6246   Standard Error = 0.0202

D-W Statistics = 2.1610

*, **, *** indicate significance at 1%, 5% and 10% respectively

Source: Computed by the author

The adjusted R-Square is 62.5% shows that the model is able to explain 62.5% of factors affecting the flow of FDI into Mining and quarry sector. The Durbin-Waston value of 2.16 shows that the analysis is free from problem of serial correlation. The Standard Error value of 0.0202 is lending credence to the model, that the model performed well. The ECM is in accordance with the norm, negative and significant.

The first and second lag value of real ratio of investment in Mining and Quarry sector shows positive impact, which means that its lagged value is re-inforcing the attraction of investment in this sector. The Bilateral Investment Treaty (BIT) is showing opposite signal which means that instead of BIT re-inforcing investment in the Mining sector, it is impacting it negatively. The lagged value of exchange rate volatility display mixed reaction while the first lag display positive relationship, the second lag display inverse relationship. GDP per capita, Inflation and its lagged value all display the expected sign. MIGA display mixed reaction, while its actual value and the second lag display the expected sign, the first lag value did not. Proxy for political freedom and real external debt display positive sign, while the first lag value of ratio of external debt display the appropriate sign of negative relationship. This is about the first time that the ratio of external debt will be displaying the *a priori* expectation sign. Cost of capital and its lag value display the proper inverse realtionship with the dependent variable. Proxy for tourism also display mixed reaction. While the actual value and its first lag display the proper positive relationship, the second lag display opposite sign.

Attracting FDI into Mining and Quarrying also exhibit no tolerance for inflation variability (INF), goverment commitment to Multi-National Investment Guarantee Agency (MIGA), reduction in the cost of capital (RLR), as well as tourist attraction (RINTOUE).

5.3   ANALYSIS OF FINDINGS

We Will start the summary of findings from economic uncertainty indicator (exchange rate and inflation variability), then we will move to investor's confidence indicator (proxy by ratio of external debt to GDP and receipt from tourism). We continue the summary of findings by looking at political freedom and government commitment indicator (political freedom indicators measured on a one-to-seven scale, with one representing the highest degree of political freedom and seven the lowest. MIGA, which is the dummy variable for periods of membership in Multilateral Investment Guarantee Agency. It takes the value of 1 for the years that the Nigerian government signed the agreement and 0 otherwise, and BIT, which is the number of bilateral investment treaty that

the Nigerian government has entered with other countries). We then move to domestic market size and cost of capial and technology (GDP per capita and real lending rate in the Nigerian economy). Finally we look at the size of export indicator (ratio of value of total export of goods and services to GDP).

5.3.1   EXCHANGE RATE

To date, much of the analyses on the real effects of variable exchange rates have considered whether variable exchange rates depress domestic exports and thereby worsen international competitiveness. Empirical tests on both developed and developing country export data have reached ambiguous conclusions (Edison and Melvin, 1989). Other recent discussions of the additional costs of variable exchange rates centre on the expense of: irreversible investment decisions, over-investment in productive capacity, and exchange-rate-induced incentives for domestic producers to locate their manufacturing facilities outside of the troubled economy. As in the literature on hysteresis in trade (Dixit 1989, Baldwin and Krugman 1989), an important issue is whether transitory movements of exchange rates may lead to persistent restructuring if not deindustrialization of economies and whether this restructuring is stimulated or reduced when future exchange rates are uncertain (Goldberg, 1993). In these analyses, we found that exchange rate variability significantly impact negatively in attracting FDI into the Nigerian economy as this can be attested to by the coefficient value of -0.4053 and -0.3445 gotten for net ratio of foreign direct investment to GDP (RNFDI) in Nigeria, -0.0002 for net ratio of foreign direct investment coming from the United States of America to our GDP (RUSFDI), -0.4179 and -0.1832 for net ratio of foreign direct investment coming from Western Europe to our GDP (RWEFDI), -0.0028 for net ratio of foreign direct investment coming from other countries outside those mentioned above to our GDP (ROTFDI). Another way of looking at the effect of exchange rate variability is to look at how it affects the flow of FDI into different sectors of the economy. The coefficient for the net ratio of FDI to GDP for manufacturing sector is -0.0028, and the coefficient for the net ratio of FDI to GDP for transport and communication sector are -0.0002, -0.0001 and -0.0003 for the actual value, first and second lag respectfully. Finally, for the mining and quarrying sector, the coefficient for the net ratio of FDI to GDP are -0.0041 and -0.0054 for the first and second lag. Therefore we can conclude that variable real exchange rates influence the location of production facilities or foreign direct investment chosen by a multinational.

5.3.2   INFLATION

In consonance to *a priori* expectation, we found that inflation variability significantly impacted negatively in attracting FDI into the Nigerian economy as this can be attested to by the coefficient value of -0.1641 and -0.4448 gotten for net ratio of foreign direct investment to GDP (RNFDI) in Nigeria, -0.0008 for net ratio of foreign direct investment coming from the United Kingdom to our GDP (RUKFDI), -0.0015 and -0.0001 for net ratio of foreign direct investment coming from the United States of America to our GDP (RUSFDI), -0.6552 and -0.7696 for net ratio of foreign direct investment coming from Western Europe to our GDP (RWEFDI), and -0.0028 for net ratio of foreign direct investment coming from other countries outside those mentioned above to our GDP (ROTFDI). Looking at the effect of inflation variability from the view point of the sector in which the investment came, it further gives impetus to the result obtained. The coefficient for the net ratio of FDI to GDP for manufacturing sector were -0.0015 and -0.0012, and the coefficient for the net ratio of FDI to GDP for trading and business services sector were -0.0007, -0.0004 and -0.0002 for the actual value, first and second lag respectfully. For building and construction sector, the coefficient of inflation variable was -0.0002 and finally, for mining and quarrying sector, the coefficient for the net ratio of FDI to GDP were -0.0041, -0.0053 and -0.0054.

5.3.3   RATIO OF EXTERNAL DEBT TO GDP

We observe that for the greater part of the result obtained for ratio of external debt to GDP were positive, this can be explained to mean that debt burden tax is really not a problem in Nigeria, since government source of income is more on crude oil, foreign investors do not really perceive servicing of our external debt as a problem. However, that does not mean our a priori expectation is not right as this can be attested to by the coefficient obtained which has the right sign of impacting negatively in attracting FDI into the Nigerian economy. The coefficient of ratio of external debt to GDP for RNFDI was -4.7335, while that of RUKFDI was -0.0111and -0.0095, and that of RUSFDI was -0.0021. The coefficient of ratio of external debt to GDP for RWEFDI was -4.0145 and that of ROTFDI were -0.0527 and -0.0351. From the sectoral point, we have -0.0027 for trade and business services, -0.0032 for transport and communication, -0.0066 for mining and quarrying.

5.3.4 RATIO OF RECEIPT FOR TOURISM TO GDP

For the proxy used as tourism receipt, it conforms to our expectation although not in all the analyses, but in the greater part of the analysis. Tourism variable did not feature in the variable considered to be important in determining the ratio of total FDI to GDP, but it featured in all the other analyses. The coefficient of ratio of tourism to GDP for RUKFDI were 1.6140 and 2.2902, while that for RWEFDI was 103.1367, and that of ROTFDI was 1.9121. The analysis for ratio of receipt for tourism to GDP became more prominent when we move to sectoral analysis. The coefficient of proxy for tourism receipt was 0.0436 for the agriculture, forestry and fishries sector, 0.9237 for manufacturing and processing sector, 0.2794 and 0.1731 for trade and business services sector, 0.1501, 0.1971 and 0.2874 for transport and communication sector, 0.0915 for building and construction sector and finally, 1.3686 and 1.5883 for mining and quarrying sector.

5.3.5 GDP PER CAPITA

Most of the value for GDP per capita were zero at 4 decimal places, it is the sign that lends credence to our analysis which shows positive for the greater part of the analysis. For instance, the coefficient obtained for RUSFDI were 0.0000, 0.0000 and 0.0000, for the real value and first and second lag respectively, likewise that for ROTFDI. For RWEFDI, the coefficient obtained were 0.0008 and 0.0009. Viewing it from sectorial perspective, we obtain 0.0000, 0.0000 and 0.0000 for agricultural, forestry and fisheries sector, 0.0000 and 0.0000 for manufacturing and processing sector, 0.0000 for trade and and business services sector, 0.0000 and 0.0000 for transport and communication sector. Finally 0.0000 for both building and construction sector and mining and quarry sector.

5.3.6 REAL LENDING RATE

This is defined as nominal lending rate minus inflation in the economy. This is meant to impact negatively, that is, there should be an inverse relationship between real interest rate and inflow of FDI into the economy but this was not so for ROTFDI and at the sectoral level for agricultural, forestry and fisheries as well as transportation and communication. This might be so because there might be other substitute sources of financing outside of the local economy which might create a smooth source of financing outside the local economy. However, the variable still behave according to the a priori expectation as this can be attested to by the coeeficient obtained from the second lag of RNFDI of -0.3285, -0.0016 for RUKFDI, -0.0016 for first lag of RUSFDI, -0.5077 and -

0.6162 for the actual coefficient value and the first lag coefficent value of real lending rate for RWEFDI. From the sectoral level to which the FDI is attracted, we have –0.0008 and -0.0014 for the actual and first lag coefficient value of real lending rate to manufacturing and processing sector, likewise for the trade and business services sector, we have -0.0005 and -0.0005. for building and construction sector, we have -0.0002, and finally for mining and quarrying sector, we have -0.0040, -0.0055 and -0.0054 for the actual, first and second lag value of real lending rate coefficient for the analysis.

5.3.7   POLITICAL FREEDOM

Political freedom indicator measured on a one-to-seven scale, with one representing the highest degree of political freedom and seven the lowest. The *a priori* expectation for this is a negative sign. There should be an inverse relationship between political freedom and inflow of FDI into Nigeria. The analysis for this variable shows that it affects all the origin of FDI inflow except the one coming from the United Kingdom, our former colonial master. This might mean that they know the country better than others or it might be as a result of the kind of investment they entered into i.e the sector their investment goes to. At the sectoral level, political freedom as a variable only influenced investment going into Agricultural sector as well as transport and communication sector.

5.3.8   MEMBERSHIP   IN   MULTILATERAL   INVESTMENT GUARANTEE AGENCY (MIGA)

This is a dummy variable for periods of membership in Multilateral Investment Guarantee Agency (MIGA); it takes value of 1 for the years that a host country signed the agreement and 0 otherwise. This is expected to impact positvely on the inflow of FDI into the Nigerian economy and it does. The positive impact cut across all the sources of FDI into the country. At the sectoral level, it fails to have a positive impact on the inflow into the transport and communication sector, this might be explained with the fact that IT is not always inclusive in the investment guaranty agreement. The awareness is just beginning to gain grounds. Also, it failed to feature as a variable in building and construction sector.

5.3.9   BILATERAL INVESTMENT TREATY (BIT)

This is the number of bilateral investment treaty between Nigeria and the source country. This is expected to impact positively on the inflow of FDI into the Nigerian economy. The analysis shows that it conforms to the *a priori* expectation. BIT positively

impacted the inflow of FDI from all the source countries. However, looking at it from the sectoral level, it is only in the manufacturing and processing as well as transport and communication sectors that indicated the expected sign. For all the other sectors, the coefficients were negative. This might have to do with the number of bilateral investment treaty we as a country have entered into as well as with which country and over what investment.

5.3.10 RATIO OF VALUE OF TOTAL EXPORT OF GOODS AND SERVICES TO GDP

The *a priori* expectation is a positive impact on the inflow of FDI into the Nigerian economy. This was so for all source countries except FDI coming from the United Kingdom which shows a negative sign. From the sectoral point of view, it conforms to the expectation except for Trade and Business services, building and construction as well as mining and quarrying sectors, where the variable did not feature in the error correction model analysis for those sectors.

In all, we have been able to demonstrate that all the variables itemised, significantly impact the flow of FDI into the Nigerian economy.

CHAPTER SIX
SUMMARY, CONCLUSIONS AND POLICY RECOMMENDATION

6.1 INTRODUCTION

In this final chapter, we bring the thesis to an end. Accordingly, we make a summary of the study, draw important policy implications and recommendations. Furthermore, we discuss the limitations of the study and make suggestions for further studies.

6.2 SUMMARY OF THE RESEARCH WORK

In this study, an attempt has been made to understand how uncertainty impact the inflow of foreign direct investment into the Nigerian economy via some identified factors of uncertainty ranging from economic uncertainty indicators through investment confidence indicator, domestic market size, cost of capital and technology, political freedom and government commitment indicators, to size of export indicators in Nigeria for the period between 1970 and 2010. In theory, uncertainty adversely affects FDI inflows. However, very little attention is given to the effects of economic and political uncertainties on FDI inflows in developing countries. This study, therefore, examined the effects of economic and political uncertainties on FDI inflows to Nigeria at the aggregated and across sectors (agricultural, manufacturing, trade and business and mining and quarrying sectors), covering the period between 1970 and 2010.

A traditional investment model, extended to incorporate the role of uncertainty on FDI inflows, was employed. An Error Correction Model (ECM) measuring the cost of capital, inflation and exchange rate variability, political instability and investors' confidence was used to determine the short- and long-run effects of economic and political uncertainty on FDI inflows with data sourced from the Central Bank of Nigeria statistical Bulletin. The most preferred estimates were established using the Schwarz and Akaike information criteria. Prior to the estimations, stationarity conditions of each of the variables were ascertained using the Augmented Dickey Fuller (ADF) tests, while the Johansen method was used to determine cointegrating vectors. Tests of parameter stability, using the Chow test, were also carried out.

Economic and political uncertainties adversely and significantly affected FDI at the aggregate level. Inflation, exchange rate variability, and cost of capital (real lending rate) had negative and significant (at $P<0.05$) effects on FDI inflows, both in the short-run

(-0.16, -0.12, -0.38) and the long-run (-1.12, -0.12, -0.10). Economic and political uncertainties influenced FDI flows into the sectors only in the short-run in varying degrees. The cost of capital, exchange rate variability and inflation had significant and mostly negative impacts on FDI inflows into manufacturing (-0.08, -0.28, -0.15); mining and quarrying (-0.40, 0.23, -0.41); and trade and business services (-0.05, 0.05, -0.07) sectors. This implied that the FDI inflows to manufacturing, mining and quarrying, and trade and business services sectors were market-seeking cum efficiency-seeking, and economic uncertainty acted as a disincentive to the FDI inflows. The cost of capital and inflation had a negligible, but positive impact on FDI inflows to the agricultural sector (0.01, 0.01), while exchange rate variability was insignificant. This supported the view that the FDI inflow to this sector was resource-seeking.

Economic and political uncertainties exerted a negative influence on Foreign Direct Investment inflows in the short- and long-run. The maintenance of a stable macroeconomic environment is essential if the adverse effects of economic uncertainty on Foreign Direct Investment inflows are to be effectively curtailed.

6.3 CONCLUSION

By looking at economic uncertainty and political instability indicators, this study has examined the role of uncertainty in affecting the inflow of FDI into the Nigerian economy. This study has also estabilshed how economic uncertainty and political instability indicators combined, affect the source of FDI and the sector into which the FDI goes. There seems to be no empirical work that has formally tested the impact of uncertainty on the inflow of disaggregated FDI into the Nigerian economy, specifically, the role of uncertainty in affecting inflow of FDI into the disaggregated sub-sector of the economy. This study has attempted to fill the gap by looking into the connection between uncertainty and the flow of total FDI from all source countries as well as the FDI inflows to the sub-sector of the economy. Our findings show that certain types of FDI are less responsive to economic uncertainty (or political instability) than other types. For instance, FDI in Agricultural sub-sector is less responsive to local real lending rate, inflation and exchange rate variability but FDI inflows to Manufacturing as well as Trade and Business Services sub-sectors are more responsive to those variables.

6.4 POLICY RECOMMENDATIONS

There is the need for a right enabling environment to encourage inflow of FDI. This can be achieved by designing policy measures that promote adequate provision of good infrastructure, transparent laws, reliable legal systems, security to lives and property

among other things as well as sound macroeconomic policies that will reduce inflation and exchange rate variability. Development of our tourist centres to attract foreigners through which the world will know that Africa and Nigeria in particular is a place to be, as well as a place to invest. Lastly, looking at the US MNEs, the world's largest contributor of investment funds, has generally followed a regional pattern, and the prime destination since the 1950s has been Western Europe. Countries in this region, besides benefiting from geographical contiguity and integrated infrasturcture, also generally had similar political and economic systems, and were relatively close in cultural terms to the USA. Further, these countries progressively integrated themselves into an economic union, which conferred immense spin-off benefits for trade and investment. This region thus provided the best mix of the traditional determinants of US FDI, notably political and economic stability, high GNPs, sound infrastructure, technically skilled labour and cultural proximity. Likewise the Asian region, where liberalization and improvement in their infrastructure have contributed to a change in the trend of FDI over time towards their region. If Nigeria and in general Africa can follow this pattern, Africa will soon become a haven for FDI inflow.

6.5   LIMITATIONS OF THE RESEARCH

The major limitation of this study is the data, however this does not in any way affect the result obtained. There are dimensions to the data limitation. First is the data period limitation, you can not get data for all the variables used for period earlier than 1970 which makes the time frame for the analysis a constraint. The second aspect is that, some data were not readily available such as data for tourism receipt in Nigeria.

Another limitation is that all the identified variables for economic uncertainty and political instability could not be incorporated into the analysis. This is the off shore of the time period for the analysis, some variables we considered not that important were left out, such as literacy ratio of the working force population.

6.6   SUGGESTIONS FOR FURTHER STUDY.

A significant area of extension on this study is to look at China's source of FDI, we did not do that for this study because, FDI has not started flowing from China as at 1970, the year our analysis started. Infact FDI did not start flowing from China into the Nigerian economy until 1992. China is now a formidable source of FDI that is really

expanding her tentacles in Africa and there is the need to attract significant share of this FDI into the Nigerian economy.

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DATA FOR THE ANALYSIS: It contains 11 dependent variables and 10 exogenous variables. 10 of the dependent variables were presented in the first table while the 11th dependent variable (i.e RTRADE which is the ratio of FDI going into the trade sector of the economy divided by GDP) is presented together with the exogenous variables.

TABLE1: THE DEPENDENT/ENDOGENOUS VARIABLES.

YEAR	RNFDI	RUKFDI	RUSFDI	RWEFDI	ROTFDI	RM&Q	RMAN	RAGRIC	RTRAN&C	RBUILD
1970	237.7815	105.333	54.51529	53.28277	24.65039	122.1616	53.28277	2.654658	11.16427	3.270917
1971	280.5217	125.5434	71.55127	55.34938	28.07762	147.1742	80.33082	3.265825	11.64197	3.265825
1972	321.1045	157.3128	58.57587	75.00818	30.20765	175.7072	72.8826	1.92119	5.983069	7.010301
1973	332.1469	162.1281	58.00377	78.19209	33.82298	174.2561	77.02448	1.487759	4.47922	8.474576
1974	113.8275	52.31254	18.84458	28.88245	13.78795	51.38916	32.68906	1.300276	11.42321	4.032739
1975	84.18593	31.55822	19.69675	21.71721	11.21375	35.31577	18.62947	0.70661	8.393443	4.092448
1976	76.96293	32.4979	9.620366	22.40749	12.43717	31.52694	18.89421	0.751377	9.762839	4.202906
1977	80.31015	34.03521	9.111588	23.44521	13.71814	34.60627	22.32847	2.379419	29.62787	3.851486
1978	98.01317	40.91756	11.72105	29.01508	16.35949	14.42196	43.24876	4.025688	41.07293	7.678246
1979	105.2858	36.85054	18.89275	32.58982	16.95272	15.58702	46.83117	4.033658	38.3115	9.827034
1980	114.7533	45.06955	17.94794	35.09706	16.63877	21.47286	47.67203	3.819722	33.28637	9.756933
1981	18.31138	6.964162	2.137197	6.578239	2.631783	2.563077	8.311483	0.587169	32.06578	1.588036
1982	26.95642	9.984711	5.867232	7.800274	3.304199	4.877675	9.627649	0.60345	22.38612	2.115829
1983	32.05582	14.0454	5.242511	9.074446	3.693465	2.754339	11.46617	0.688585	21.4808	2.391727
1984	34.96511	16.57959	5.256506	9.038314	4.090694	3.828658	11.49088	0.700032	20.02088	2.391549
1985	33.84463	17.87836	4.278829	7.964233	3.723208	3.700824	11.33178	0.626752	18.51852	2.254319
1986	45.21793	24.634	6.707242	8.879388	4.997296	12.1881	13.64364	0.622417	13.76482	2.43529
1987	48.79533	26.89417	5.851865	10.02605	6.023246	11.03578	15.2453	0.572736	11.73751	2.258717
1988	51.57098	21.48897	12.43794	11.42828	6.215787	15.47693	16.54117	0.586241	11.36764	2.240813
1989	46.0424	26.41959	2.715334	10.30965	6.597823	2.689566	22.83787	0.569426	12.36743	2.035233
1990	39.00617	25.52271	0.782284	5.642684	7.058494	4.079985	23.69277	1.250981	32.07137	2.779294
1991	46.13513	27.31036	-3.11517	10.70205	11.23789	3.052237	32.75465	1.442465	31.26608	5.545275
1992	75.5903	28.773	22.14762	13.2187	11.45098	23.64781	35.91577	1.42391	18.8372	5.183415
1993	243.0091	41.62996	43.85131	143.5263	14.00158	100.7407	46.88333	4.420498	18.19067	0.259066
1994	256.7233	45.66336	48.7906	142.2339	20.03553	96.85947	51.04327	4.387357	17.08982	6.197118
1995	424.2664	56.12539	65.68022	275.2714	27.18941	201.6553	98.32293	4.296262	10.12633	5.518689
1996	26970.98	57.83546	63.56934	26821.57	28.00452	193.3385	101.4971	4.115809	0.152601	6.346653
1997	424.9087	57.02059	74.30572	265.3786	28.20386	196.0827	103.6254	4.003013	9.420877	4.171212
1998	490.1813	100.8971	69.39301	264.6569	55.23431	192.8994	110.9842	3.888834	7.933461	12.50699
1999	493.9037	104.437	64.33428	267.6576	57.47485	188.5282	116.2204	3.872722	7.841047	12.79984
2000	478.5711	99.57904	66.64951	256.5965	55.74601	184.4314	113.4144	3.672777	7.674466	12.139
2001	457.5518	99.30775	63.38084	241.3907	53.47256	172.5851	105.8269	3.386609	7.401585	11.79823
2002	386.4964	85.0441	51.81606	199.2699	50.3664	142.2239	92.22825	2.790836	7.220859	9.91197
2003	373.7501	87.46118	53.11633	184.8833	48.28923	129.4342	95.74082	2.531762	6.773944	9.519342
2004	472.3881	92.82473	53.73804	173.1546	152.6707	117.7948	195.2246	2.291613	4.851124	9.845217
2005	480.2093	103.6037	57.10217	169.092	150.4114	143.7709	238.2755	2.151508	4.480355	11.94683
2006	508.2785	122.54	63.88825	169.3183	152.5319	177.3491	357.0354	2.029131	3.992164	17.55744
2007	573.9186	138.1383	73.221	187.7455	174.8137	208.2543	346.0964	2.096804	3.653486	18.96757
2008	591.1837	148.8104	75.55253	184.5832	182.2376	208.1781	340.448	2.070266	3.5019	18.82161
2009	508.6986	114.2767	61.98736	174.8276	157.6069	161.7923	284.158	2.142264	4.244282	14.57926
2010	538.3975	128.2731	67.44099	177.6848	164.9987	184.3881	320.4638	2.086927	3.906976	16.82336

TABLE 2: 1 DEPENDENT AND ALL THE 10 INDEPENDENTEXOGENOUS VARIABLES

YEAR	RTRADE	GDPPC	REDEBT	RINTOUE	REXPO	INF	ER	RLR	POLI	MIGA	BIT
1970	3270.917	0.201657	41.47902	28.57466	209.8602	1.75	0.71	6.25	6	0	0
1971	3265.825	0.238752	37.85389	23.34931	274.2869	1.65	0.7	8.35	6	0	0
1972	7010.301	0.279588	54.28385	25.6589	293.1246	9.41	0.66	0.59	6	0	0
1973	8474.576	0.342518	52.14689	18.08287	429.0772	4.61	0.66	5.39	6	0	0
1974	4032.739	0.51588	20.25164	7.869124	364.0018	13.53	0.63	-3.53	6	0	0
1975	4092.448	0.610415	12.87723	10.02944	181.2712	33.93	0.62	-24.9	6	0	0
1976	4202.906	0.722268	12.85232	9.33126	231.6402	21.1	0.63	-11.1	6	0	0
1977	3851.486	0.783443	11.58301	8.754112	242.0884	21.48	0.65	-15.5	5	0	0
1978	7678.246	0.850199	42.86194	13.78537	207.5968	13.3	0.61	-2.3	5	0	0
1979	9827.034	1.018697	53.80994	8.821792	361.8539	11.65	0.6	-0.65	2	0	0
1980	9756.933	1.233472	59.17557	7.45064	449.7033	10	0.55	-0.5	2	0	0
1981	1588.036	1.079168	11.3594	35.29796	53.714	21.42	0.61	-11.4	2	0	0
1982	2115.829	1.000662	44.1665	48.58403	41.09667	7.16	0.67	4.64	2	0	0
1983	2391.727	0.980143	56.9925	55.00833	40.42337	23.22	0.72	-11.7	7	0	0
1984	2391.549	1.002719	80.67367	54.18134	49.50889	40.71	0.76	-27.7	7	0	0
1985	2254.319	0.958683	86.0571	40.45799	58.30191	4.67	0.89	7.13	7	0	0
1986	2435.29	0.484846	201.2532	54.79452	43.3099	5.39	2.02	6.61	7	0	0
1987	2258.717	0.308381	492.1187	16.15251	148.2404	10.18	4.02	9.02	6	0	0
1988	2240.813	0.351639	609.2368	15.86263	141.8657	56.04	4.54	-38.4	5	1	0
1989	2035.233	0.326064	1015.478	9.011371	244.8836	50.47	7.39	-25.9	6	1	0
1990	2779.294	0.359051	1116.107	5.026113	410.7124	7.5	8.04	20.2	5	1	1
1991	5545.275	0.332122	1236.172	4.881705	457.969	12.7	9.91	8.1	5	1	2
1992	5183.415	0.313433	2005.65	3.678779	757.6929	44.81	17.3	-13.6	5	1	2
1993	259.0661	0.308912	2303.74	5.563375	796.0102	57.17	22.05	-21.1	7	1	2
1994	6197.118	0.276708	2355.46	9.650625	748.0804	57.03	21.89	-36	7	1	4
1995	5518.689	0.275023	2547.43	2.852225	3378.239	72.81	21.89	-52	7	1	4
1996	6346.653	0.287475	2101.548	2.541878	4458.09	29.29	21.89	-8.39	7	1	4
1997	4171.212	0.293856	1973.137	3.451581	4111.16	10.67	21.89	12.6	7	1	4
1998	12506.99	0.298227	2036.144	6.470781	2418.4	7.86	21.89	13.4	6	1	4
1999	12799.84	0.296982	8255.989	4.870351	3808.561	6.62	92.69	20.5	4	1	5
2000	12139	0.375023	9509.275	3.317687	5910.842	6.94	102.1	14.7	4	1	5
2001	11798.23	0.348353	8897.316	4.292772	5232.447	18.87	111.9	2.43	4	1	5
2002	9911.97	0.455332	9078.608	5.54416	4026.232	12.89	121	17.3	4	1	5
2003	9519.342	0.508434	9378.052	3.698808	6466.331	14.03	129.4	8.85	4	1	7
2004	9845.217	0.644031	9269.318	7.658369	8724.395	15.01	133.5	5.81	4	1	7
2005	11946.83	0.802787	4796.088	7.231579	12895.76	17.85	132.2	1.64	4	1	9
2006	17557.44	1.014587	757.7129	10.01468	12293.41	8.24	128.7	10.5	4	1	11
2007	18967.57	1.132695	674.9042	8.963745	13101.69	5.38	125.8	13	4	1	13
2008	18821.61	1.380969	1763.197	8.396431	15116.71	11.6	118.6	7.1	4	1	13
2009	14579.26	1.096576	3874.506	8.467092	11753.81	12.5	148.9	10.4	4	1	13
2010	16823.36	1.239781	1997.975	8.651608	13351.89	13.7	150.3	8.8	5	1	13

Source: computed by the author from the CBN statistical bulletin.

APPENDIX II
THE UNIT ROOT ANALYSIS USING AUGMENTED DICKEY FULLER TEST.

Variables	Level	Critical Value	ADF* (1 lag), Trend and Intercept First Difference	Critical Value	Order of Integration
RNFDI	-6.223333*	1% -4.205004 5% -3.526609 10% -3.194611			I(0)
RUKFDI	-1.943594	1% -4.205004 5% -3.526609 10% -3.194611	-5.735822*	1% -4.211868 5% -3.529758 10% -3.196411	I(1)
RUSFDI	-2.066060	1% -4.205004 5% -3.526609 10% -3.194611	-6.288109*	1% -4.211868 5% -3.529758 10% -3.196411	I(1)
RWEFDI	-6.212165*	1% -4.205004 5% -3.526609 10% -3.194611			I(0)
RMQ	-1.929745	1% -4.205004 5% -3.526609 10% -3.194611	-5.659191*	1% -4.211868 5% -3.529758 10% -3.196411	I(1)
RMAN	-1.218582	1% -4.205004 5% -3.526609 10% -3.194611	-5.493249*	1% -4.211868 5% -3.529758 10% -3.196411	I(1)
RAGRIC	-2.154456	1% -4.205004 5% -3.526609 10% -3.194611	-5.298549*	1% -4.211868 5% -3.529758 10% -3.196411	I(1)
RTRANS	-2.928754	1% -4.211868 5% -3.529758 10% -3.196411	-5.150939*	1% -4.211868 5% -3.529758 10% -3.196411	I(1)
RBUILD	-2.398279	1% -4.205004 5% -3.526609 10% -3.194611	-6.770305*	1% -4.211868 5% -3.529758 10% -3.196411	I(1)
REDEBT	-2.569132	1% -4.211868 5% -3.529758 10% -3.196411	-4.332744*	1% -4.211868 5% -3.529758 10% -3.196411	I(1)
RINTOUE	-2.010963	1% -4.205004 5% -3.526609 10% -3.194611	-6.647834*	1% -4.211868 5% -3.529758 10% -3.196411	I(1)
REXPO	-1.396664	1% -4.205004 5% -3.526609 10% -3.194611	-6.600454*	1% -4.211868 5% -3.529758 10% -3.196411	I(1)
RTRADE	-2.398279	1% -4.205004 5% -3.526609 10% -3.194611	-6.770305*	1% -4.211868 5% -3.529758 10% -3.196411	I(1)
INFVL	-1.340895	1% -4.219126 5% -3.533083 10% -3.198312	-9.124508*	1% -4.219126 5% -3.533083 10% -3.198312	I(1)
ER	-1.486966	1% -4.205004 5% -3.526609 10% -3.194611	-6.069614*	1% -4.211868 5% -3.529758 10% -3.196411	I(1)
RLR	-3.880152**	1% -4.205004 5% -3.526609 10% -3.194611			I(0)
GDPPC	-2.447063	1% -4.205004 5% -3.526609 10% -3.194611	-6.407164*	1% -4.211868 5% -3.529758 10% -3.196411	I(1)
POLI	-2.436638	1% -4.205004	-5.818043*	1% -4.211868	I(1)

| | | 5%   -3.526609 | | 5%   -3.529758 | |
| | | 10% -3.194611 | | 10% -3.196411 | |

Source: Computed by the author

APPENDIX III

LONG RUN EQUATION

The long run equations for the model specified in the analysis is presented below. For each specification, eleven separate regressions were run with different dependent variables.

LONG RUN EQUATION FOR RNFDI

Dependent Variable: RNFDI
Method: Least Squares
Date: 11/04/12   Time: 18:07
Sample: 1970 2010
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.682063	3.604233	-0.189240	0.8512
EXR	-0.121681	0.071801	-1.694694	0.1008
GDPPC	7.87E-05	0.000999	0.078796	0.9377
INF	-0.118236	0.228191	-0.518143	0.6083
MIGA	2.493476	4.198243	0.593933	0.5572
POLI	0.363863	0.557781	0.652340	0.5193
REDEBT	0.744416	0.565333	1.316775	0.1982
REXPO	0.933149	0.650412	1.434705	0.1621
RLR	-0.102222	0.218909	-0.466962	0.6440
BIT	0.148642	0.835625	0.177881	0.8601

R-squared	0.191578	Mean dependent var		0.922244
Adjusted R^2	-0.059311	S.D. dependent var		4.285187
S.E. of R	4.410436	Akaike info criterion		6.022379
Sum squared resid	564.1065	Schwarz criterion		6.448933
Log likelihood	-107.4364	F-statistic		0.763597
Durbin-Watson stat	2.546518	Prob(F-statistic)		0.649864

Source: Computed by the author

LONG RUN EQUATION FOR RUKFDI

Dependent Variable: RUKFDI
Method: Least Squares
Date: 11/04/12   Time: 18:28
Sample: 1970 2010
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INF	0.002583	0.001233	2.094915	0.0450
EXR	0.000612	0.000413	1.482567	0.1490
RLR	0.003158	0.001161	2.719434	0.0109
REXPO	0.009138	0.003785	2.414569	0.0223
RINTOUE	1.888228	0.569766	3.314039	0.0025
REDEBT	-0.004069	0.003264	-1.246686	0.2225
GDPPC	-5.20E-05	9.41E-06	-5.523221	0.0000
POLI	0.006060	0.002991	2.026259	0.0520
MIGA	0.056279	0.027341	2.058373	0.0486
BIT	0.001174	0.004849	0.242076	0.8104

R-squared	0.759133	Mean dependent var		0.064362
Adjusted R-squared	0.684381	S.D. dependent var		0.045206
S.E. of regression	0.025397	Akaike info criterion		-4.291832
Sum squared resid	0.018705	Schwarz criterion		-3.865278
Log likelihood	93.69072	Durbin-Watson stat		1.606358

Source: Computed by the author

LONG RUN EQUATION FOR RUSFDI

Dependent Variable: RUSFDI
Method: Least Squares
Date: 12/04/12   Time: 15:10

Sample: 1970 2010
Included observations: 40
Excluded observations: 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INF	0.000801	0.000755	1.060098	0.2985
MIGA	0.030967	0.014859	2.084041	0.0467
POLI	0.000692	0.001798	0.384836	0.7034
REDEBT	0.000555	0.001649	0.336911	0.7388
REXPO	0.004392	0.001953	2.249290	0.0329
RINTOUE	0.912707	0.298687	3.055734	0.0050
RLR	0.000776	0.000703	1.103595	0.2795
EXR	-0.000467	0.000211	-2.211300	0.0357
BIT	0.009116	0.002537	3.593103	0.0013
GDPPC	-2.60E-05	4.90E-06	-5.308989	0.0000
C	0.014910	0.010948	1.361892	0.1845

R-squared	0.838632	Mean dependent var		0.037103
Adjusted R-squared	0.778866	S.D. dependent var		0.027269
S.E. of regression	0.012823	Akaike info criterion		-5.637945
Sum squared resid	0.004440	Schwarz criterion		-5.163907
Log likelihood	118.1210	F-statistic		14.03193
Durbin-Watson stat	1.484013	Prob(F-statistic)		0.000000

Source: Computed by the author

LONG RUN EQUATION FOR RWEFDI

Dependent Variable: RWEFDI
Method: Least Squares
Date: 12/04/12   Time: 15:14
Sample: 1970 2010
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INF	-0.158392	0.246796	-0.641795	0.5262
MIGA	1.281283	4.920750	0.260384	0.7965
POLI	0.480062	0.625171	0.767890	0.4490
REDEBT	0.772015	0.575196	1.342177	0.1903
REXPO	0.846961	0.675955	1.252984	0.2206
RINTOUE	-48.57186	102.2724	-0.474926	0.6385
RLR	-0.139514	0.235297	-0.592927	0.5580
EXR	-0.119066	0.073242	-1.625661	0.1152
BIT	0.076521	0.859050	0.089077	0.9297
GDPPC	0.000754	0.001663	0.453635	0.6536
C	-0.442448	3.725395	-0.118765	0.9063

R-squared	0.194352	Mean dependent var		0.782338
Adjusted R-squared	-0.093380	S.D. dependent var		4.280419
S.E. of regression	4.475811	Akaike info criterion		6.067998
Sum squared resid	560.9208	Schwarz criterion		6.537207
Log likelihood	-107.3260	F-statistic		0.675462
Durbin-Watson stat	2.552507	Prob(F-statistic)		0.737400

Source: Computed by the author

LONG RUN EQUATION FOR ROTFDI

Dependent Variable: ROTFDI
Method: Least Squares
Date: 12/04/12   Time: 15:16
Sample: 1970 2010
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INF	-0.000217	0.000785	-0.276565	0.7841
MIGA	0.017748	0.015660	1.133306	0.2667
POLI	5.29E-05	0.001990	0.026579	0.9790
REDEBT	-0.005704	0.001831	-3.115832	0.0042

Variable	Coefficient	Std. Error	t-Statistic	Prob.
REXPO	0.008599	0.002151	3.997049	0.0004
RINTOUE	0.237846	0.325481	0.730752	0.4710
RLR	-7.93E-05	0.000749	-0.105861	0.9164
EXR	0.000690	0.000233	2.961865	0.0062
BIT	-0.001351	0.002734	-0.494290	0.6250
GDPPC	-8.39E-06	5.29E-06	-1.584932	0.1242
C	0.017773	0.011856	1.499086	0.1450

R-squared	0.941756	Mean dependent var		0.039456
Adjusted R-squared	0.920954	S.D. dependent var		0.050664
S.E. of regression	0.014244	Akaike info criterion		-5.432186
Sum squared resid	0.005681	Schwarz criterion		-4.962976
Log likelihood	116.9276	F-statistic		45.27327
Durbin-Watson stat	2.302834	Prob(F-statistic)		0.000000

Source: Computed by the author

LONG RUN EQUATION FOR RAGRIC

Dependent Variable: RAGRIC
Method: Least Squares
Date: 12/04/12   Time: 15:20
Sample: 1970 2010
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INF	8.69E-05	5.28E-05	1.646948	0.1107
MIGA	0.000184	0.001053	0.175053	0.8623
POLI	-0.000224	0.000134	-1.672508	0.1056
REDEBT	0.000134	0.000123	1.087563	0.2861
REXPO	0.000108	0.000145	0.745244	0.4623
RINTOUE	0.019264	0.021877	0.880560	0.3861
RLR	6.81E-05	5.03E-05	1.353329	0.1868
EXR	-4.84E-05	1.57E-05	-3.090991	0.0045
BIT	0.000651	0.000184	3.543572	0.0014
GDPPC	-1.17E-06	3.56E-07	-3.287312	0.0027
C	0.002742	0.000797	3.441359	0.0018

R-squared	0.640680	Mean dependent var		0.002262
Adjusted R-squared	0.512351	S.D. dependent var		0.001371
S.E. of regression	0.000957	Akaike info criterion		-10.83188
Sum squared resid	2.57E-05	Schwarz criterion		-10.36267
Log likelihood	222.2217	F-statistic		4.992487
Durbin-Watson stat	1.321424	Prob(F-statistic)		0.000360

Source: Computed by the author

LONG RUN EQUATION FOR RMAN

Dependent Variable: RMAN
Method: Least Squares
Date: 12/04/12   Time: 15:25
Sample: 1970 2010
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INF	0.000510	0.001112	0.459009	0.6498
MIGA	0.050928	0.022170	2.297196	0.0293
POLI	-0.000611	0.002817	-0.216790	0.8299
REDEBT	-0.018468	0.002591	-7.126447	0.0000
REXPO	0.011632	0.003045	3.819549	0.0007
RINTOUE	0.770792	0.460771	1.672830	0.1055
RLR	0.000710	0.001060	0.669315	0.5088
EXR	0.001121	0.000330	3.398658	0.0020
BIT	0.006595	0.003870	1.703971	0.0995
GDPPC	-2.66E-05	7.49E-06	-3.557009	0.0014
C	0.040194	0.016784	2.394774	0.0236

R-squared	0.965059	Mean dependent var		0.083051
Adjusted R-squared	0.952580	S.D. dependent var		0.092601

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S.E. of regression	0.020165	Akaike info criterion	-4.736990
Sum squared resid	0.011386	Schwarz criterion	-4.267781
Log likelihood	103.3713	F-statistic	77.33462
Durbin-Watson stat	2.269810	Prob(F-statistic)	0.000000

Source: Computed by the author

LONG RUN EQUATION FOR RTRADE

Dependent Variable: RMAN
Method: Least Squares
Date: 12/04/12   Time: 15:25
Sample: 1970 2010
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INF	0.000510	0.001112	0.459009	0.6498
MIGA	0.050928	0.022170	2.297196	0.0293
POLI	-0.000611	0.002817	-0.216790	0.8299
REDEBT	-0.018468	0.002591	-7.126447	0.0000
REXPO	0.011632	0.003045	3.819549	0.0007
RINTOUE	0.770792	0.460771	1.672830	0.1055
RLR	0.000710	0.001060	0.669315	0.5088
EXR	0.001121	0.000330	3.398658	0.0020
BIT	0.006595	0.003870	1.703971	0.0995
GDPPC	-2.66E-05	7.49E-06	-3.557009	0.0014
C	0.040194	0.016784	2.394774	0.0236

R-squared	0.965059	Mean dependent var	0.083051
Adjusted R-squared	0.952580	S.D. dependent var	0.092601
S.E. of regression	0.020165	Akaike info criterion	-4.736990
Sum squared resid	0.011386	Schwarz criterion	-4.267781
Log likelihood	103.3713	F-statistic	77.33462
Durbin-Watson stat	2.269810	Prob(F-statistic)	0.000000

Source: Computed by the author

LONG RUN EQUATION FOR RTRANS

Dependent Variable: RTRANS
Method: Least Squares
Date: 12/04/12   Time: 15:28
Sample: 1970 2010
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INF	0.000117	0.000432	0.269551	0.7895
MIGA	-0.005864	0.008620	-0.680259	0.5019
POLI	-0.003701	0.001095	-3.379870	0.0022
REDEBT	-0.000392	0.001008	-0.389029	0.7002
REXPO	-0.001190	0.001184	-1.005365	0.3233
RINTOUE	-0.125150	0.179155	-0.698559	0.4906
RLR	0.000109	0.000412	0.263631	0.7940
EXR	-0.000105	0.000128	-0.818830	0.4198
BIT	0.000121	0.001505	0.080502	0.9364
GDPPC	3.16E-06	2.91E-06	1.086390	0.2866
C	0.037186	0.006526	5.698164	0.0000

R-squared	0.601866	Mean dependent var	0.014656
Adjusted R-squared	0.459676	S.D. dependent var	0.010666
S.E. of regression	0.007840	Akaike info criterion	-6.626296
Sum squared resid	0.001721	Schwarz criterion	-6.157086
Log likelihood	140.2128	F-statistic	4.232811
Durbin-Watson stat	1.185184	Prob(F-statistic)	0.001212

Source: Computed by the author

LONG RUN EQUATION FOR RBUILD

Dependent Variable: RBUILD
Method: Least Squares
Date: 12/04/12   Time: 15:30
Sample: 1970 2010
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INF	-4.20E-05	0.000126	-0.333637	0.7411
MIGA	0.002722	0.002510	1.084397	0.2874
POLI	-0.000691	0.000319	-2.165089	0.0391
REDEBT	-0.000603	0.000293	-2.054595	0.0494
REXPO	0.000282	0.000345	0.817020	0.4208
RINTOUE	0.024452	0.052176	0.468641	0.6430
RLR	-1.99E-05	0.000120	-0.165401	0.8698
EXR	2.72E-05	3.74E-05	0.727480	0.4730
BIT	0.000802	0.000438	1.829652	0.0780
GDPPC	-1.98E-06	8.48E-07	-2.333540	0.0270
C	0.010255	0.001901	5.395523	0.0000

R-squared	0.841812	Mean dependent var		0.006846
Adjusted R-squared	0.785316	S.D. dependent var		0.004928
S.E. of regression	0.002283	Akaike info criterion		-9.093547
Sum squared resid	0.000146	Schwarz criterion		-8.624337
Log likelihood	188.3242	F-statistic		14.90047
Durbin-Watson stat	1.598602	Prob(F-statistic)		0.000000

Source: Computed by the author

LONG RUN EQUATION FOR RMQ

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INF	0.001747	0.002223	0.785847	0.4386
MIGA	0.074370	0.044333	1.677533	0.1046
POLI	0.005140	0.005632	0.912539	0.3693
REDEBT	0.002785	0.005182	0.537373	0.5953
REXPO	0.013653	0.006090	2.241809	0.0331
RINTOUE	2.244539	0.921417	2.435966	0.0215
RLR	0.001739	0.002120	0.820244	0.4190
EXR	-0.001420	0.000660	-2.152113	0.0402
BIT	0.025480	0.007740	3.292231	0.0027
GDPPC	-6.72E-05	1.50E-05	-4.489282	0.0001
C	0.020163	0.033564	0.600750	0.5528

R-squared	0.811768	Mean dependent var		0.091482
Adjusted R-squared	0.744542	S.D. dependent var		0.079783
S.E. of regression	0.040325	Akaike info criterion		-3.350969
Sum squared resid	0.045530	Schwarz criterion		-2.881759
Log likelihood	76.34389	F-statistic		12.07526
Durbin-Watson stat	1.520338	Prob(F-statistic)		0.000000

Source: Computed by the author

APPENDIX IV
OVER PARAMETISED EQUATION OF THE ERROR CORRECTION MODEL (ECM).

OVER PARAMETISED EQUATION FOR THE FIRST DEPENDENT VARIABLE (RNFDI)

Dependent Variable: D(RNFDI)
Method: Least Squares
Date: 07/02/13   Time: 12:50
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.976336	0.496975	1.964559	0.1884
D(RNFDI(-1))	0.227316	0.713159	0.318745	0.7801
D(RNFDI(-2))	0.014219	0.553396	0.025694	0.9818
D(EXR)	-0.349304	0.204940	-1.704425	0.2304
D(EXR(-1))	0.053594	0.038076	1.407534	0.2946
D(EXR(-2))	-0.157374	0.072752	-2.163160	0.1630
D(GDPPC)	0.000212	0.000644	0.328990	0.7734
D(GDPPC(-1))	0.000584	0.001075	0.543866	0.6411
D(GDPPC(-2))	-0.001660	0.001422	-1.167762	0.3633
D(INF)	-0.735020	0.158223	-4.645472	0.0433
D(INF(-1))	0.045731	0.125848	0.363381	0.7511
D(INF(-2))	-0.845838	0.159911	-5.289420	0.0339
D(MIGA)	2.534294	2.834379	0.894127	0.4656
D(MIGA(-1))	5.582802	1.880098	2.969421	0.0972
D(MIGA(-2))	-3.049013	5.571112	-0.547290	0.6391
D(POLI)	1.621967	0.398335	4.071867	0.0554
D(POLI(-1))	0.021493	0.231743	0.092746	0.9346
D(POLI(-2))	-1.034315	0.298684	-3.462905	0.0742
D(REDEBT)	3.299225	0.749528	4.401736	0.0479
D(REDEBT(-1))	-3.864821	0.931430	-4.149340	0.0535
D(REDEBT(-2))	4.422687	1.428359	3.096342	0.0904
D(REXPO)	2.942320	0.747505	3.936186	0.0589
D(REXPO(-1))	-0.015913	0.349622	-0.045515	0.9678
D(REXPO(-2))	-1.044493	0.786120	-1.328669	0.3153
D(RLR)	-0.598447	0.165580	-3.614247	0.0688
D(RLR(-1))	0.058354	0.119752	0.487288	0.6742
D(RLR(-2))	-0.686405	0.145784	-4.708375	0.0423
D(BIT)	1.369922	1.955125	0.700683	0.5560
D(BIT(-1))	-1.455636	0.825573	-1.763184	0.2199
D(BIT(-2))	0.048800	0.822903	0.059302	0.9581
D(RINTOUE)	-7.526166	34.40945	-0.218724	0.8472
D(RINTOUE(-1))	-93.99537	72.91201	-1.289162	0.3263
D(RINTOUE(-2))	63.81661	54.97010	1.160933	0.3655
ECM(-1)	-1.014927	0.721799	-2.098822	0.1707

R-squared	0.999419	Mean dependent var		0.007436
Adjusted R-squared	0.989839	S.D. dependent var		6.346117
S.E. of regression	0.639709	Akaike info criterion		0.942911
Sum squared resid	0.818456	Schwarz criterion		2.438457
Log likelihood	17.02760	F-statistic		104.3164
Durbin-Watson stat	1.715863	Prob(F-statistic)		0.009538

FINAL EQUATION RESULT FOR THE FIRST DEPENDENT VARIABLE (RNFDI)

Dependent Variable: RNFDI
Method: Least Squares
Date: 07/02/13   Time: 11:40
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.529498	0.496787	1.065844	0.3034
D(EXR)	-0.405333	0.071309	-5.684196	0.0000
D(EXR(-2))	-0.344516	0.072583	-4.746490	0.0003
D(GDPPC(-2))	-0.001655	0.001399	-1.182704	0.2553
D(INF)	-0.164124	0.035095	-4.676506	0.0003
D(INF(-1))	0.274406	0.125622	2.184379	0.0452

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D(INF(-2))	-0.444765	0.094469	-4.708047	0.0003
D(MIGA)	7.378075	2.878654	2.563029	0.0216
D(MIGA(-2))	-16.64585	3.611224	-4.609475	0.0003
D(POLI)	1.349403	0.528298	2.554247	0.0220
D(POLI(-2))	-1.134299	0.377596	-3.004003	0.0089
D(REDEBT)	4.588076	0.760659	6.031713	0.0000
D(REDEBT(-1))	-4.733544	0.855871	-5.530672	0.0001
D(REDEBT(-2))	6.156859	1.002958	6.138698	0.0000
D(REXPO)	4.076118	0.696000	5.856494	0.0000
D(REXPO(-1))	1.492438	0.435899	3.423815	0.0038
D(RLR(-1))	0.328474	0.124484	2.638695	0.0186
D(RLR(-2))	-0.378214	0.095007	-3.980894	0.0012
D(BIT)	4.472335	1.380384	3.239922	0.0055
D(BIT(-2))	-1.167029	0.923174	-1.264148	0.2255
ECM(-1)	-0.805646	0.156850	-5.136423	0.0001

R-squared	0.912977	Mean dependent var	0.975781
Adjusted R-squared	0.796946	S.D. dependent var	4.460758
S.E. of regression	2.010087	Akaike info criterion	4.525431
Sum squared resid	60.60676	Schwarz criterion	5.449151
Log likelihood	-60.45776	F-statistic	7.868378
Durbin-Watson stat	1.830213	Prob(F-statistic)	0.000092

OVER PARAMETISED EQUATION FOR THE SECOND DEPENDENT VARIABLE (RUKFDI)
Dependent Variable: D(RUKFDI)
Method: Least Squares
Date: 07/10/13   Time: 03:36
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RUKFDI(-1))	0.148614	0.759953	0.195556	0.8575
D(RUKFDI(-2))	0.533554	0.606876	0.879181	0.4440
D(BIT)	-0.011046	0.027264	-0.405170	0.7125
D(BIT(-1))	0.011838	0.022142	0.534632	0.6300
D(BIT(-2))	0.011599	0.023412	0.495439	0.6543
D(EXR)	0.001425	0.002254	0.632309	0.5721
D(EXR(-1))	-0.000324	0.001545	-0.209610	0.8474
D(EXR(-2))	0.000390	0.001667	0.234235	0.8299
D(GDPPC)	-3.88E-05	1.59E-05	-2.433157	0.0931
D(GDPPC(-1))	-1.86E-05	6.21E-05	-0.300132	0.7837
D(GDPPC(-2))	2.74E-06	6.16E-05	0.044432	0.9674
D(INF)	-0.001039	0.002769	-0.375398	0.7323
D(INF(-1))	-0.002277	0.003298	-0.690635	0.5394
D(INF(-2))	0.000192	0.004308	0.044609	0.9672
D(MIGA)	0.196283	0.150490	1.304294	0.2832
D(MIGA(-1))	-0.093746	0.109139	-0.858963	0.4535
D(MIGA(-2))	0.017594	0.107003	0.164430	0.8798
D(POLI)	0.009738	0.012179	0.799561	0.4824
D(POLI(-1))	0.001326	0.007964	0.166530	0.8783
D(POLI(-2))	-0.004389	0.017816	-0.246347	0.8213
D(REDEBT)	-0.014675	0.028553	-0.513970	0.6427
D(REDEBT(-1))	0.008916	0.023277	0.383056	0.7272
D(REDEBT(-2))	-0.013939	0.026136	-0.533343	0.6308
D(RLR)	-5.89E-06	0.003557	-0.001655	0.9988
D(RLR(-1))	-0.002516	0.003680	-0.683893	0.5431
D(RLR(-2))	-8.88E-05	0.003433	-0.025859	0.9810
D(REXPO)	-0.001601	0.014111	-0.113450	0.9168
D(REXPO(-1))	-0.004639	0.013887	-0.334079	0.7603
D(REXPO(-2))	-0.010129	0.023619	-0.428871	0.6969
D(RINTOUE)	1.221853	1.645918	0.742353	0.5117
D(RINTOUE(-1))	1.587513	3.637889	0.436383	0.6921
D(RINTOUE(-2))	-2.134954	1.800292	-1.185893	0.3210
ECMUK(-1)	-1.022752	0.727625	-1.405603	0.2545

R-squared	0.868065	Mean dependent var	-0.000253
Adjusted R-squared	-0.539246	S.D. dependent var	0.022391
S.E. of regression	0.027779	Akaike info criterion	-4.980631

Sum squared resid	0.002315	Schwarz criterion	-3.529072
Log likelihood	122.6514	Durbin-Watson stat	2.300101

FINAL EQUATION RESULT FOR THE SECOND DEPENDENT VARIABLE (RUKFDI)
Dependent Variable: D(RUKFDI)
Method: Least Squares
Date: 07/10/13   Time: 03:59
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RUKFDI(-2))	0.436673	0.167303	2.610070	0.0216
D(BIT)	-0.014460	0.008203	-1.762703	0.1014
D(BIT(-1))	0.011361	0.004544	2.500378	0.0266
D(BIT(-2))	0.012118	0.005956	2.034515	0.0628
D(EXR)	0.001112	0.000405	2.743231	0.0168
D(GDPPC)	-3.67E-05	7.38E-06	-4.966285	0.0003
D(GDPPC(-1))	-3.16E-05	1.12E-05	-2.828521	0.0142
D(INF)	-0.000830	0.000228	-3.643988	0.0030
D(INF(-1))	-0.001469	0.000692	-2.123513	0.0535
D(INF(-2))	0.000186	0.000222	0.836002	0.4183
D(MIGA)	0.195240	0.041383	4.717854	0.0004
D(MIGA(-1))	-0.076652	0.031017	-2.471278	0.0281
D(MIGA(-2))	0.040168	0.021536	1.865175	0.0849
D(POLI)	0.007069	0.003610	1.958373	0.0720
D(REDEBT)	-0.011111	0.004042	-2.748678	0.0166
D(REDEBT(-1))	0.006022	0.004988	1.207315	0.2488
D(REDEBT(-2))	-0.009456	0.003027	-3.124069	0.0081
D(RLR(-1))	-0.001602	0.000687	-2.332083	0.0364
D(REXPO(-2))	-0.006886	0.005719	-1.204080	0.2500
D(RINTOUE)	1.614981	0.409451	3.944257	0.0017
D(RINTOUE(-1))	2.290154	0.632586	3.620304	0.0031
D(RINTOUE(-2))	-2.088320	0.659692	-3.165596	0.0074
ECMUK(-1)	-0.809060	0.188825	-4.284719	0.0009

R-squared	0.843507	Mean dependent var	-0.000253
Adjusted R-squared	0.578673	S.D. dependent var	0.022391
S.E. of regression	0.014534	Akaike info criterion	-5.365487
Sum squared resid	0.002746	Schwarz criterion	-4.353795
Log likelihood	119.5788	Durbin-Watson stat	2.290837

OVER PARAMETISED EQUATION FOR THE THIRD DEPENDENT VARIABLE (RUSFDI)
Dependent Variable: D(RUSFDI)
Method: Least Squares
Date: 07/10/13   Time: 04:14
Sample(adjusted): 1973 2010
Included observations: 34
Excluded observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RUSFDI(-1))	-0.622051	1.078494	-0.576778	0.6669
D(RUSFDI(-2))	0.035241	0.929652	0.037908	0.9759
D(BIT)	-0.008372	0.020911	-0.400374	0.7576
D(BIT(-1))	0.002520	0.012848	0.196142	0.8767
D(BIT(-2))	0.001788	0.014076	0.127046	0.9196
D(EXR)	-0.000800	0.001005	-0.796404	0.5718
D(EXR(-1))	0.000739	0.000893	0.827196	0.5600
D(EXR(-2))	-0.000753	0.001338	-0.563016	0.6736
D(GDPPC)	-1.32E-05	9.32E-06	-1.412986	0.3921
D(GDPPC(-1))	-2.38E-05	4.23E-05	-0.563040	0.6735
D(GDPPC(-2))	-2.28E-05	4.77E-05	-0.477322	0.7165
D(INF)	2.67E-05	0.002584	0.010341	0.9934
D(INF(-1))	4.12E-05	0.002590	0.015913	0.9899
D(INF(-2))	-0.001065	0.002163	-0.492130	0.7089
D(MIGA)	0.085008	0.092984	0.914221	0.5285
D(MIGA(-1))	0.019668	0.063693	0.308788	0.8093
D(MIGA(-2))	0.033800	0.079526	0.425011	0.7442

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Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(POLI)	0.004297	0.011120	0.386435	0.7652
D(POLI(-1))	-0.003418	0.005839	-0.585285	0.6629
D(POLI(-2))	0.001244	0.009289	0.133862	0.9153
D(REDEBT)	0.006156	0.010720	0.574282	0.6681
D(REDEBT(-1))	-0.009620	0.014628	-0.657663	0.6297
D(REDEBT(-2))	0.011086	0.018123	0.611694	0.6505
D(RLR)	0.000144	0.002633	0.054810	0.9651
D(RLR(-1))	0.000473	0.002764	0.171077	0.8921
D(RLR(-2))	-0.000855	0.001917	-0.445984	0.7329
D(REXPO)	0.010850	0.012776	0.849296	0.5518
D(REXPO(-1))	0.005455	0.011557	0.472005	0.7192
D(RINTOUE)	0.864598	1.063768	0.812770	0.5655
D(RINTOUE(-1))	1.717850	2.715568	0.632593	0.6409
ECMUS(-1)	-0.403389	0.881969	-0.457373	0.7269

R-squared	0.909355	Mean dependent var		-0.000978
Adjusted R-squared	-1.809992	S.D. dependent var		0.009565
S.E. of regression	0.016034	Akaike info criterion		-6.956400
Sum squared resid	0.000257	Schwarz criterion		-5.536468
Log likelihood	142.3024	Durbin-Watson stat		1.883569

FINAL EQUATION RESULT FOR THE THIRD DEPENDENT VARIABLE (RUSFDI)

Dependent Variable: D(RUSFDI)
Method: Least Squares
Date: 07/10/13   Time: 04:29
Sample(adjusted): 1973 2010
Included observations: 35
Excluded observations: 3 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RUSFDI(-1))	-0.225066	0.356408	-0.631484	0.5555
D(BIT)	0.001297	0.009819	0.132070	0.9001
D(BIT(-1))	0.002073	0.007322	0.283054	0.7885
D(BIT(-2))	0.002158	0.007764	0.277924	0.7922
D(EXR)	-0.000572	0.000435	-1.315869	0.2453
D(EXR(-1))	0.000292	0.000430	0.678836	0.5274
D(EXR(-2))	-0.000518	0.000654	-0.792422	0.4640
D(GDPPC)	-1.36E-05	5.97E-06	-2.276627	0.0718
D(GDPPC(-1))	-1.48E-05	1.25E-05	-1.182955	0.2900
D(GDPPC(-2))	-1.73E-05	1.66E-05	-1.041437	0.3454
D(INF(-2))	-9.97E-05	0.000899	-0.110850	0.9160
D(MIGA)	0.063934	0.038877	1.644499	0.1610
D(MIGA(-1))	0.003098	0.021651	0.143099	0.8918
D(MIGA(-2))	0.014693	0.023998	0.612283	0.5671
D(POLI)	0.002299	0.006064	0.379187	0.7201
D(POLI(-1))	-0.002523	0.002374	-1.062701	0.3365
D(POLI(-2))	0.000651	0.004527	0.143747	0.8913
D(REDEBT)	0.004210	0.004803	0.876537	0.4208
D(REDEBT(-1))	-0.006422	0.005325	-1.206013	0.2818
D(REDEBT(-2))	0.006559	0.005845	1.122175	0.3128
D(RLR)	-6.07E-05	0.000322	-0.188462	0.8579
D(RLR(-1))	0.000188	0.000252	0.746611	0.4889
D(RLR(-2))	-9.43E-05	0.000798	-0.118211	0.9105
D(REXPO)	0.007122	0.003658	1.946773	0.1091
D(REXPO(-1))	0.003679	0.003637	1.011424	0.3582
D(RINTOUE)	0.680946	0.400556	1.700001	0.1499
D(RINTOUE(-1))	1.339629	0.779328	1.718954	0.1463
ECMUS(-1)	-0.447222	0.436571	-1.024397	0.3526

R-squared	0.790795	Mean dependent var		-0.000800
Adjusted R-squared	-0.338911	S.D. dependent var		0.009470
S.E. of regression	0.010958	Akaike info criterion		-6.379594
Sum squared resid	0.000600	Schwarz criterion		-5.109830
Log likelihood	133.2633	Durbin-Watson stat		2.398985

OVER PARAMETISED EQUATION FOR THE FOURTH DEPENDENT VARIABLE (RWEFDI)

Dependent Variable: D(RWEFDI)
Method: Least Squares
Date: 07/09/13   Time: 13:58
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.862467	0.609566	1.414887	0.2927
D(RWEFDI(-1))	-0.177852	0.658096	-0.270252	0.8123
D(RWEFDI(-2))	-0.280983	0.531147	-0.529012	0.6496
D(BIT)	2.550669	1.887682	1.351217	0.3092
D(BIT(-1))	-1.172283	0.937386	-1.250587	0.3376
D(BIT(-2))	-0.250725	0.987598	-0.253874	0.8233
D(EXR)	-0.468610	0.192321	-2.436604	0.1351
D(EXR(-1))	0.040741	0.042624	0.955827	0.4400
D(EXR(-2))	-0.194509	0.076724	-2.535165	0.1267
D(GDPPC)	0.000661	0.000895	0.738714	0.5370
D(GDPPC(-1))	0.000700	0.001240	0.564455	0.6293
D(GDPPC(-2))	-0.001785	0.001597	-1.117729	0.3799
D(INF)	-0.647409	0.168420	-3.844014	0.0615
D(INF(-1))	0.109299	0.156776	0.697167	0.5578
D(INF(-2))	-0.811712	0.200770	-4.042997	0.0561
D(MIGA)	0.562438	3.382038	0.166302	0.8832
D(MIGA(-1))	6.248538	2.119342	2.948339	0.0984
D(MIGA(-2))	-6.345183	6.095626	-1.040940	0.4072
D(POLI)	1.749207	0.429455	4.073083	0.0553
D(POLI(-1))	0.175095	0.243012	0.720480	0.5461
D(POLI(-2))	-1.014221	0.342285	-2.963087	0.0975
D(REDEBT)	3.693225	0.828171	4.459495	0.0468
D(REDEBT(-1))	-4.279656	0.962463	-4.446566	0.0470
D(REDEBT(-2))	5.254440	1.353132	3.883170	0.0604
D(RLR)	-0.506827	0.179373	-2.825554	0.1058
D(RLR(-1))	0.127872	0.146004	0.875816	0.4735
D(RLR(-2))	-0.655265	0.183510	-3.570732	0.0703
D(REXPO)	3.307965	0.788051	4.197655	0.0523
D(REXPO(-1))	0.143624	0.369480	0.388721	0.7350
D(REXPO(-2))	-1.068427	0.922821	-1.157784	0.3665
D(RINTOUE)	-38.21964	43.75287	-0.873535	0.4745
D(RINTOUE(-1))	-110.8150	86.09048	-1.287192	0.3269
D(RINTOUE(-2))	79.10437	72.23115	1.095156	0.3877
ECMWE(-1)	-1.169115	0.706675	-1.654388	0.2399

R-squared	0.999214	Mean dependent var		0.003022
Adjusted R-squared	0.986238	S.D. dependent var		6.347054
S.E. of regression	0.744594	Akaike info criterion		1.246562
Sum squared resid	1.108841	Schwarz criterion		2.742108
Log likelihood	11.56188	F-statistic		77.00478
Durbin-Watson stat	2.096557	Prob(F-statistic)		0.012897

FINAL EQUATION RESULT FOR THE FOURTH DEPENDENT VARIABLE (RWEFDI)
 Dependent Variable: D(RWEFDI)
Method: Least Squares
Date: 07/09/13   Time: 14:11
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.753728	0.244221	3.086251	0.0273
D(RWEFDI(-2))	-0.156631	0.055512	-2.821550	0.0370
D(BIT)	2.304457	0.744462	3.095466	0.0270
D(BIT(-1))	-1.081020	0.404449	-2.672820	0.0442
D(BIT(-2))	-0.248777	0.456418	-0.545065	0.6091
D(EXR)	-0.417938	0.026893	-15.54070	0.0000
D(EXR(-1))	0.037053	0.019931	1.859003	0.1221
D(EXR(-2))	-0.183206	0.028107	-6.518214	0.0013
D(GDPPC)	0.000835	0.000362	2.311083	0.0688
D(GDPPC(-1))	0.000942	0.000413	2.283043	0.0713

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Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDPPC(-2))	-0.001508	0.000628	-2.399798	0.0616
D(INF)	-0.655236	0.074975	-8.739353	0.0003
D(INF(-1))	0.111878	0.061708	1.813038	0.1296
D(INF(-2))	-0.769644	0.085072	-9.046936	0.0003
D(MIGA(-1))	6.319506	1.303568	4.847853	0.0047
D(MIGA(-2))	-6.612997	2.734239	-2.418588	0.0602
D(POLI)	1.661362	0.173266	9.588524	0.0002
D(POLI(-1))	0.169930	0.121513	1.398453	0.2208
D(POLI(-2))	-1.099014	0.198170	-5.545814	0.0026
D(REDEBT)	3.508135	0.266770	13.15039	0.0000
D(REDEBT(-1))	-4.014534	0.457347	-8.777872	0.0003
D(REDEBT(-2))	4.841322	0.387649	12.48894	0.0001
D(RLR)	-0.507668	0.082721	-6.137147	0.0017
D(RLR(-1))	0.122503	0.061930	1.978088	0.1048
D(RLR(-2))	-0.616216	0.075035	-8.212349	0.0004
D(REXPO)	3.164293	0.306756	10.31532	0.0001
D(REXPO(-2))	-0.942910	0.305783	-3.083595	0.0274
D(RINTOUE)	-49.46604	22.58312	-2.190399	0.0801
D(RINTOUE(-1))	-120.4667	22.50224	-5.353545	0.0031
D(RINTOUE(-2))	103.1367	23.44008	4.400016	0.0070
ECMWE(-1)	-1.356620	0.082368	-16.47014	0.0000

R-squared	0.999116	Mean dependent var		0.003022
Adjusted R-squared	0.993814	S.D. dependent var		6.347054
S.E. of regression	0.499200	Akaike info criterion		1.196520
Sum squared resid	1.246001	Schwarz criterion		2.560105
Log likelihood	9.462646	F-statistic		188.4338
Durbin-Watson stat	2.082823	Prob(F-statistic)		0.000007

OVER PARAMETISED EQUATION FOR THE FIFTH DEPENDENT VARIABLE (ROTFDI)
Dependent Variable: D(ROTFDI)
Method: Least Squares
Date: 12/29/13   Time: 15:36
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.002287	0.002195	-1.041499	0.3200
D(ROTFDI(-1))	-2.528758	0.492567	-5.133837	0.0003
D(ROTFDI(-2))	-0.371215	0.298430	-1.243894	0.2394
D(BIT)	-0.045871	0.008354	-5.490983	0.0002
D(BIT(-2))	0.034257	0.005860	5.846379	0.0001
D(EXR)	0.005042	0.000740	6.815538	0.0000
D(EXR(-1))	-0.002345	0.000662	-3.545268	0.0046
D(GDPPC)	-9.63E-06	3.93E-06	-2.447385	0.0324
D(GDPPC(-1))	-3.34E-05	7.31E-06	-4.573250	0.0008
D(GDPPC(-2))	-1.36E-05	5.85E-06	-2.327360	0.0401
D(INF(-1))	-0.000431	0.000123	-3.486510	0.0051
D(INF(-2))	0.004045	0.000589	6.864812	0.0000
D(MIGA)	0.099064	0.019607	5.052602	0.0004
D(MIGA(-2))	0.059260	0.014335	4.133844	0.0017
D(POLI(-2))	-0.003895	0.001836	-2.122171	0.0574
D(REDEBT)	-0.054744	0.007878	-6.948803	0.0000
D(REDEBT(-1))	0.056611	0.011104	5.098379	0.0003
D(REDEBT(-2))	-0.035456	0.005326	-6.656658	0.0000
D(RLR)	0.000466	0.000172	2.705114	0.0205
D(RLR(-2))	0.003553	0.000529	6.722691	0.0000
D(REXPO)	0.008725	0.002722	3.205367	0.0084
D(REXPO(-1))	0.019314	0.003877	4.981461	0.0004
D(REXPO(-2))	0.026699	0.006374	4.188475	0.0015
D(RINTOUE(-1))	2.017921	0.426783	4.728215	0.0006
ECMROT(-1)	-0.009613	0.356710	-0.026948	0.9790

R-squared	0.945822	Mean dependent var		0.004203
Adjusted R-squared	0.827616	S.D. dependent var		0.018757
S.E. of regression	0.007788	Akaike info criterion		-6.669237
Sum squared resid	0.000667	Schwarz criterion		-5.569571

Log likelihood	145.0463	F-statistic		8.001438
Durbin-Watson stat	2.087180	Prob(F-statistic)		0.000485

FINAL EQUATION FOR THE FIFTH DEPENDENT VARIABLE (ROTFDI)

Dependent Variable: D(ROTFDI)
Method: Least Squares
Date: 12/30/13   Time: 18:34
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.002865	0.002194	-1.305810	0.2161
D(ROTFDI(-1))	-2.351229	0.482068	-4.877386	0.0004
D(BIT)	-0.048748	0.008208	-5.938765	0.0001
D(BIT(-2))	0.036145	0.005787	6.245824	0.0000
D(EXR)	0.004734	0.000713	6.641081	0.0000
D(EXR(-1))	-0.002791	0.000569	-4.907018	0.0004
D(GDPPC)	-9.74E-06	4.02E-06	-2.421226	0.0322
D(GDPPC(-1))	-3.15E-05	7.31E-06	-4.313678	0.0010
D(GDPPC(-2))	-9.77E-06	5.08E-06	-1.923792	0.0784
D(INF(-1))	-0.000401	0.000124	-3.234405	0.0072
D(INF(-2))	0.004041	0.000602	6.707586	0.0000
D(MIGA)	0.097532	0.020009	4.874378	0.0004
D(MIGA(-2))	0.058509	0.014646	3.995002	0.0018
D(POLI(-2))	-0.004359	0.001838	-2.371486	0.0353
D(REDEBT)	-0.052697	0.007878	-6.689032	0.0000
D(REDEBT(-1))	0.062373	0.010319	6.044437	0.0001
D(REDEBT(-2))	-0.035139	0.005440	-6.459139	0.0000
D(RLR)	0.000508	0.000173	2.937167	0.0124
D(RLR(-2))	0.003511	0.000539	6.509830	0.0000
D(REXPO)	0.010802	0.002198	4.913803	0.0004
D(REXPO(-1))	0.016322	0.003109	5.249133	0.0002
D(REXPO(-2))	0.029521	0.006091	4.846593	0.0004
D(RINTOUE(-1))	1.912107	0.427649	4.471202	0.0008
ECMROT(-1)	-0.213761	0.323853	-0.660057	0.5217
R-squared	0.938201	Mean dependent var		0.004203
Adjusted R-squared	0.819754	S.D. dependent var		0.018757
S.E. of regression	0.007963	Akaike info criterion		-6.593184
Sum squared resid	0.000761	Schwarz criterion		-5.537505
Log likelihood	142.6773	F-statistic		7.920818
Durbin-Watson stat	2.052730	Prob(F-statistic)		0.000315

THE OVER PARAMATISED EQUATION FOR THE SIXTH DEPENDENT VARIABLE

Dependent Variable: D(RAGRIC)
Method: Least Squares
Date: 07/10/13   Time: 04:35
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RAGRIC(-1))	1.012087	0.525741	1.925066	0.1499
D(RAGRIC(-2))	0.534923	0.915181	0.584499	0.5999
D(BIT)	-0.000707	0.000849	-0.832288	0.4663
D(BIT(-1))	-0.000195	0.001002	-0.194812	0.8580
D(BIT(-2))	3.83E-05	0.000441	0.086876	0.9362
D(EXR)	-3.01E-05	5.66E-05	-0.531499	0.6319
D(EXR(-1))	4.21E-05	4.39E-05	0.957758	0.4088
D(EXR(-2))	-4.10E-05	6.44E-05	-0.635661	0.5702
D(GDPPC)	-7.83E-07	7.41E-07	-1.056580	0.3683
D(GDPPC(-1))	1.08E-06	1.47E-06	0.728874	0.5188
D(GDPPC(-2))	-9.28E-07	1.11E-06	-0.837384	0.4638
D(INF)	3.91E-05	0.000114	0.341366	0.7553
D(INF(-1))	-2.68E-05	0.000109	-0.245560	0.8219
D(INF(-2))	-1.51E-05	0.000112	-0.134320	0.9017

	Coefficient	Std. Error	t-Statistic	Prob.
D(MIGA)	0.001770	0.002750	0.643546	0.5657
D(MIGA(-1))	0.000914	0.002529	0.361436	0.7417
D(MIGA(-2))	0.000554	0.002508	0.221102	0.8392
D(POLI)	0.000350	0.000585	0.598428	0.5917
D(POLI(-1))	-2.16E-05	0.000322	-0.066918	0.9509
D(POLI(-2))	-0.000311	0.000376	-0.826750	0.4690
D(REDEBT)	0.000364	0.000633	0.574274	0.6060
D(REDEBT(-1))	1.17E-05	0.000592	0.019736	0.9855
D(REDEBT(-2))	0.000261	0.000751	0.348062	0.7508
D(RLR)	5.35E-05	0.000110	0.485100	0.6608
D(RLR(-1))	-4.78E-06	8.92E-05	-0.053609	0.9606
D(RLR(-2))	-1.71E-05	9.33E-05	-0.183235	0.8663
D(REXPO)	0.000299	0.000545	0.548481	0.6215
D(REXPO(-1))	0.000309	0.000380	0.814125	0.4752
D(REXPO(-2))	0.000531	0.000655	0.810005	0.4772
D(RINTOUE)	-0.016774	0.053860	-0.311448	0.7758
D(RINTOUE(-1))	0.026364	0.062801	0.419798	0.7029
D(RINTOUE(-2))	0.057929	0.050848	1.139252	0.3373
ECMAGRIC(-1)	-1.225246	0.776793	-1.577312	0.2128
R-squared	0.916076	Mean dependent var		5.56E-06
Adjusted R-squared	0.020888	S.D. dependent var		0.000866
S.E. of regression	0.000857	Akaike info criterion		-11.93842
Sum squared resid	2.20E-06	Schwarz criterion		-10.48686
Log likelihood	247.8916	Durbin-Watson stat		1.904347

FINAL EQUATION RESULT FOR THE SIXTH DEPENDENT VARIABLE (RAGRIC)

Dependent Variable: D(RAGRIC)
Method: Least Squares
Date: 07/10/13   Time: 04:53
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RAGRIC(-1))	0.909222	0.154171	5.897490	0.0000
D(RAGRIC(-2))	0.382571	0.153590	2.490864	0.0259
D(BIT)	-0.000580	0.000269	-2.158227	0.0488
D(EXR)	-3.32E-05	1.81E-05	-1.832859	0.0882
D(EXR(-1))	3.83E-05	1.37E-05	2.787802	0.0145
D(EXR(-2))	-4.36E-05	2.07E-05	-2.103355	0.0540
D(GDPPC)	-1.03E-06	2.09E-07	-4.902733	0.0002
D(GDPPC(-1))	9.88E-07	2.73E-07	3.618382	0.0028
D(GDPPC(-2))	-4.67E-07	3.32E-07	-1.409205	0.1806
D(INF)	5.94E-05	2.42E-05	2.456790	0.0277
D(INF(-1))	-9.83E-06	6.05E-06	-1.624442	0.1266
D(MIGA)	0.000955	0.000615	1.554705	0.1423
D(POLI)	0.000198	0.000122	1.621693	0.1272
D(POLI(-2))	-0.000260	0.000101	-2.570826	0.0222
D(REDEBT)	0.000299	0.000191	1.562834	0.1404
D(REDEBT(-2))	0.000289	0.000182	1.584750	0.1353
D(RLR)	7.76E-05	2.43E-05	3.189405	0.0066
D(REXPO)	0.000367	0.000145	2.528979	0.0241
D(REXPO(-1))	0.000176	0.000122	1.441444	0.1715
D(REXPO(-2))	0.000452	0.000225	2.003243	0.0649
D(RINTOUE(-2))	0.043576	0.012159	3.583940	0.0030
ECMAGRIC(-1)	-1.040848	0.164547	-6.325538	0.0000
R-squared	0.888727	Mean dependent var		5.56E-06
Adjusted R-squared	0.721816	S.D. dependent var		0.000866
S.E. of regression	0.000457	Akaike info criterion		-12.26745
Sum squared resid	2.92E-06	Schwarz criterion		-11.29975
Log likelihood	242.8141	Durbin-Watson stat		2.090799

OVER PARAMETISED EQUATION FOR THE SEVENTH DEPENDENT VARIABLE (RMAN)

Dependent Variable: D(RMAN)
Method: Least Squares
Date: 07/10/13   Time: 04:57
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RMAN(-1))	0.257663	0.745919	0.345430	0.7526
D(RMAN(-2))	0.343510	0.648062	0.530058	0.6328
D(BIT)	-0.025367	0.020615	-1.230525	0.3062
D(BIT(-1))	0.003776	0.013518	0.279345	0.7981
D(BIT(-2))	0.002444	0.010971	0.222806	0.8380
D(EXR)	0.000232	0.001053	0.219966	0.8400
D(EXR(-1))	0.001757	0.001255	1.399539	0.2561
D(EXR(-2))	-0.002760	0.001275	-2.164466	0.1191
D(GDPPC)	-2.31E-05	1.08E-05	-2.132457	0.1227
D(GDPPC(-1))	-5.87E-06	3.94E-05	-0.148766	0.8912
D(GDPPC(-2))	1.13E-05	3.45E-05	0.328085	0.7644
D(INF)	-0.000945	0.002498	-0.378229	0.7304
D(INF(-1))	-0.000821	0.002718	-0.302046	0.7823
D(INF(-2))	0.000594	0.002504	0.237340	0.8277
D(MIGA)	0.080494	0.058270	1.381386	0.2611
D(MIGA(-1))	-0.037040	0.054456	-0.680177	0.5452
D(MIGA(-2))	0.046496	0.062047	0.749363	0.5080
D(POLI)	-0.000356	0.008411	-0.042270	0.9689
D(POLI(-1))	0.001071	0.006311	0.169694	0.8760
D(POLI(-2))	-0.001398	0.009268	-0.150869	0.8897
D(REDEBT)	-0.002574	0.014325	-0.179713	0.8688
D(REDEBT(-1))	-0.007770	0.024470	-0.317541	0.7717
D(REDEBT(-2))	0.024531	0.016003	1.532962	0.2228
D(RLR)	-0.000420	0.002474	-0.169853	0.8759
D(RLR(-1))	-0.001012	0.002864	-0.353145	0.7473
D(RLR(-2))	0.000782	0.002291	0.341387	0.7553
D(REXPO)	0.017667	0.011370	1.553882	0.2180
D(REXPO(-1))	0.007810	0.015973	0.488942	0.6584
D(REXPO(-2))	0.007120	0.017090	0.416604	0.7050
D(RINTOUE)	0.803947	1.162998	0.691271	0.5391
D(RINTOUE(-1))	0.575678	1.994413	0.288645	0.7916
D(RINTOUE(-2))	-0.497243	1.093711	-0.454638	0.6803
ECMMAN(-1)	-0.963326	0.997606	-0.965638	0.4055

R-squared	0.963419	Mean dependent var		0.007431
Adjusted R-squared	0.573220	S.D. dependent var		0.029802
S.E. of regression	0.019469	Akaike info criterion		-5.691528
Sum squared resid	0.001137	Schwarz criterion		-4.239969
Log likelihood	135.4475	Durbin-Watson stat		1.812844

FINAL EQUATION RESULT FOR THE SEVENTH DEPENDENT VARIABLE (RMAN)

Dependent Variable: D(RMAN)
Method: Least Squares
Date: 07/10/13   Time: 05:17
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RMAN(-1))	0.463282	0.131461	3.524113	0.0037
D(RMAN(-2))	0.618352	0.128930	4.796030	0.0003
D(BIT)	-0.029439	0.006362	-4.627015	0.0005
D(EXR(-1))	0.001555	0.000340	4.579442	0.0005
D(EXR(-2))	-0.002842	0.000400	-7.110795	0.0000
D(GDPPC)	-2.30E-05	5.08E-06	-4.532133	0.0006
D(GDPPC(-2))	2.66E-05	7.60E-06	3.495603	0.0039
D(INF)	-0.001474	0.000536	-2.747864	0.0166
D(INF(-1))	-0.001150	0.000561	-2.050269	0.0611
D(MIGA)	0.078267	0.017230	4.542452	0.0006

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Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(MIGA(-1))	-0.054015	0.020498	-2.635132	0.0206
D(MIGA(-2))	0.047872	0.017693	2.705654	0.0180
D(POLI(-1))	0.003130	0.002144	1.459805	0.1681
D(REDEBT(-2))	0.028410	0.004352	6.528258	0.0000
D(RLR)	-0.000798	0.000522	-1.529805	0.1500
D(RLR(-1))	-0.001445	0.000556	-2.598402	0.0221
D(RLR(-2))	0.000335	0.000151	2.213147	0.0454
D(REXPO)	0.018363	0.003204	5.730329	0.0001
D(REXPO(-1))	0.002395	0.002878	0.832201	0.4203
D(REXPO(-2))	0.010877	0.004414	2.464042	0.0285
D(RINTOUE)	0.923740	0.243456	3.794278	0.0022
D(RINTOUE(-2))	-0.876447	0.452943	-1.935007	0.0750
ECMMAN(-1)	-1.209055	0.149750	-8.073824	0.0000

R-squared	0.955252	Mean dependent var		0.007431
Adjusted R-squared	0.879526	S.D. dependent var		0.029802
S.E. of regression	0.010344	Akaike info criterion		-6.045579
Sum squared resid	0.001391	Schwarz criterion		-5.033886
Log likelihood	131.8204	Durbin-Watson stat		1.911490

OVER PARAMETISED EQUATION FOR THE EIGHT DEPENDENT VARIABLE (RTRADE)

Dependent Variable: D(RTRADE)
Method: Least Squares
Date: 07/10/13   Time: 05:25
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RTRADE(-1))	0.038468	1.065369	0.036107	0.9735
D(RTRADE(-2))	-0.108458	1.153260	-0.094044	0.9310
D(BIT)	-0.006237	0.012135	-0.513940	0.6428
D(BIT(-1))	-0.000436	0.009872	-0.044134	0.9676
D(BIT(-2))	0.001846	0.008253	0.223699	0.8374
D(EXR)	0.000519	0.000862	0.602400	0.5894
D(EXR(-1))	0.000264	0.000685	0.384888	0.7260
D(EXR(-2))	0.000190	0.000848	0.224339	0.8369
D(GDPPC)	-1.11E-05	9.60E-06	-1.159463	0.3302
D(GDPPC(-1))	-4.36E-06	2.30E-05	-0.189245	0.8620
D(GDPPC(-2))	-7.68E-06	4.44E-05	-0.172856	0.8738
D(INF)	-0.000884	0.001356	-0.652406	0.5607
D(INF(-1))	-0.000606	0.001548	-0.391607	0.7215
D(INF(-2))	-0.000404	0.001657	-0.243648	0.8232
D(MIGA)	0.051264	0.041809	1.226164	0.3076
D(MIGA(-1))	0.000303	0.073251	0.004131	0.9970
D(MIGA(-2))	0.026533	0.049922	0.531499	0.6319
D(POLI)	0.003556	0.007568	0.469813	0.6705
D(POLI(-1))	-0.000290	0.003655	-0.079221	0.9418
D(POLI(-2))	0.000291	0.006038	0.048136	0.9646
D(REDEBT)	-0.002602	0.008920	-0.291725	0.7895
D(REDEBT(-1))	0.000384	0.008621	0.044535	0.9673
D(REDEBT(-2))	-0.003527	0.012086	-0.291812	0.7894
D(RLR)	-0.000702	0.001725	-0.406870	0.7114
D(RLR(-1))	-0.000585	0.001399	-0.418405	0.7038
D(RLR(-2))	-0.000239	0.001481	-0.161195	0.8822
D(REXPO)	-0.000605	0.006907	-0.087643	0.9357
D(REXPO(-1))	0.001694	0.008623	0.196463	0.8568
D(REXPO(-2))	0.000502	0.008613	0.058324	0.9572
D(RINTOUE)	0.325331	0.879001	0.370115	0.7359
D(RINTOUE(-1))	0.544310	1.383012	0.393569	0.7202
D(RINTOUE(-2))	-0.272695	1.419880	-0.192055	0.8600
ECMTRADE(-1)	-0.937760	1.050547	-0.892639	0.4378

R-squared	0.871896	Mean dependent var		0.000689
Adjusted R-squared	-0.494547	S.D. dependent var		0.009361
S.E. of regression	0.011444	Akaike info criterion		-6.754337
Sum squared resid	0.000393	Schwarz criterion		-5.302778

Log likelihood	154.5781	Durbin-Watson stat	1.955167

FINAL EQUATION RESULT FOR THE EIGHTH DEPENDENT VARIABLE (RTRADE)

Dependent Variable: D(RTRADE)
Method: Least Squares
Date: 07/10/13   Time: 10:55
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(BIT)	-0.003182	0.002234	-1.424334	0.1724
D(EXR)	0.000469	0.000125	3.747098	0.0016
D(EXR(-1))	0.000158	0.000134	1.173944	0.2566
D(EXR(-2))	0.000167	0.000117	1.428477	0.1713
D(GDPPC)	-1.07E-05	2.63E-06	-4.062814	0.0008
D(INF)	-0.000694	0.000301	-2.305699	0.0340
D(INF(-1))	-0.000419	0.000252	-1.661064	0.1150
D(INF(-2))	-0.000199	8.34E-05	-2.383814	0.0291
D(MIGA)	0.036084	0.009783	3.688331	0.0018
D(MIGA(-2))	0.012895	0.007936	1.624815	0.1226
D(POLI)	0.001686	0.001037	1.626757	0.1222
D(REDEBT)	-0.002829	0.001001	-2.827733	0.0116
D(REDEBT(-2))	-0.002660	0.000932	-2.852720	0.0110
D(RLR)	-0.000452	0.000288	-1.572440	0.1343
D(RLR(-1))	-0.000488	0.000247	-1.975140	0.0647
D(RINTOUE)	0.279417	0.119618	2.335920	0.0320
D(RINTOUE(-1))	0.173135	0.138615	1.249040	0.2286
D(RINTOUE(-2))	-0.154236	0.117327	-1.314585	0.2061
ECMTRADE(-1)	-0.900227	0.186296	-4.832233	0.0002

R-squared	0.838101	Mean dependent var	0.000689
Adjusted R-squared	0.666678	S.D. dependent var	0.009361
S.E. of regression	0.005404	Akaike info criterion	-7.297982
Sum squared resid	0.000497	Schwarz criterion	-6.462235
Log likelihood	150.3637	Durbin-Watson stat	1.810694

OVER PARAMETISED EQUATION FOR THE NINTH DEPENDENT VARIABLE (RTRANS)

Dependent Variable: D(RTRANS)
Method: Least Squares
Date: 01/23/13   Time: 14:36
Sample(adjusted): 1971 2008
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RTRANS(-1))	-0.179441	0.221456	-0.810279	0.4771
D(RTRANS(-2))	-0.480288	0.189007	-2.541108	0.0846
D(INF)	0.000632	0.000459	1.374852	0.2629
D(INF(-1))	0.001073	0.000350	3.065459	0.0548
D(INF(-2))	0.001184	0.000350	3.384686	0.0429
D(RLR)	0.000583	0.000379	1.538072	0.2216
D(RLR(-1))	0.001003	0.000353	2.843821	0.0654
D(RLR(-2))	0.001146	0.000396	2.891237	0.0629
D(BIT)	-0.000994	0.002098	-0.473883	0.6679
D(BIT(-1))	0.000491	0.002327	0.210953	0.8464
D(BIT(-2))	0.004867	0.003801	1.280568	0.2904
D(MIGA)	-0.013875	0.011915	-1.164452	0.3284
D(MIGA(-1))	-0.006336	0.008957	-0.707330	0.5304
D(MIGA(-2))	-0.016412	0.011898	-1.379403	0.2616
D(POLI)	-0.001123	0.002028	-0.553831	0.6183
D(POLI(-1))	-0.004137	0.000916	-4.518549	0.0203
D(POLI(-2))	-0.004715	0.001762	-2.675889	0.0753
D(EXR)	-0.000138	0.000248	-0.554597	0.6178
D(EXR(-1))	-0.000187	0.000190	-0.982115	0.3985
D(EXR(-2))	-0.000220	0.000241	-0.912214	0.4289

	Coefficient	Std. Error	t-Statistic	Prob.
D(GDPPC)	4.25E-06	5.33E-06	0.796502	0.4839
D(GDPPC(-1))	-6.58E-06	3.31E-06	-1.985678	0.1413
D(GDPPC(-2))	-4.25E-07	2.60E-06	-0.163489	0.8805
D(REDEBT)	0.003490	0.003206	1.088521	0.3560
D(REDEBT(-1))	-0.003015	0.002663	-1.132195	0.3399
D(REDEBT(-2))	-0.000602	0.002751	-0.218931	0.8408
D(REXPO)	-0.003119	0.002815	-1.107861	0.3488
D(REXPO(-1))	-0.001286	0.001654	-0.777609	0.4935
D(REXPO(-2))	0.003414	0.001985	1.719684	0.1840
D(RINTOUE)	0.148669	0.210818	0.705201	0.5315
D(RINTOUE(-1))	0.119720	0.253262	0.472711	0.6687
D(RINTOUE(-2))	0.287351	0.215712	1.332105	0.2750
ECMTRANS(-1)	-0.542478	0.250358	-2.166813	0.1188

R-squared	0.970761	Mean dependent var	-0.000200
Adjusted R-squared	0.658878	S.D. dependent var	0.006679
S.E. of regression	0.003901	Akaike info criterion	-8.906834
Sum squared resid	4.56E-05	Schwarz criterion	-7.455275
Log likelihood	193.3230	Durbin-Watson stat	1.374700

FINAL EQUATION RESULT FOR THE NINTH DEPENDENT VARIABLE (RTRANS)

Dependent Variable: D(RTRANS)
Method: Least Squares
Date: 01/23/13   Time: 14:42
Sample(adjusted): 1971 2008
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RTRANS(-1))	-0.222240	0.144507	-1.537920	0.1680
D(RTRANS(-2))	-0.469290	0.121457	-3.863846	0.0062
D(INF)	0.000588	0.000243	2.415789	0.0464
D(INF(-1))	0.001105	0.000209	5.285015	0.0011
D(INF(-2))	0.001091	0.000198	5.516065	0.0009
D(RLR)	0.000548	0.000224	2.440448	0.0447
D(RLR(-1))	0.001069	0.000207	5.164504	0.0013
D(RLR(-2))	0.001037	0.000210	4.944381	0.0017
D(BIT(-2))	0.003485	0.002068	1.684759	0.1359
D(MIGA)	-0.010376	0.005574	-1.861530	0.1050
D(MIGA(-1))	-0.004624	0.005679	-0.814344	0.4423
D(MIGA(-2))	-0.014438	0.007187	-2.009033	0.0845
D(POLI)	-0.001235	0.000990	-1.246569	0.2527
D(POLI(-1))	-0.004324	0.000600	-7.203310	0.0002
D(POLI(-2))	-0.004267	0.000970	-4.398746	0.0032
D(EXR)	-0.000200	0.000110	-1.821270	0.1114
D(EXR(-1))	-0.000145	9.30E-05	-1.564340	0.1617
D(EXR(-2))	-0.000283	7.19E-05	-3.927840	0.0057
D(GDPPC)	2.50E-06	2.63E-06	0.952962	0.3723
D(GDPPC(-1))	-6.83E-06	2.16E-06	-3.159631	0.0159
D(REDEBT)	0.004203	0.001246	3.373850	0.0119
D(REDEBT(-1))	-0.003240	0.001340	-2.418263	0.0462
D(REXPO)	-0.002624	0.001563	-1.678396	0.1372
D(REXPO(-1))	-0.000636	0.000691	-0.920067	0.3881
D(REXPO(-2))	0.003754	0.000993	3.781560	0.0069
D(RINTOUE)	0.150139	0.123441	1.216278	0.2633
D(RINTOUE(-1))	0.197092	0.147840	1.333149	0.2242
D(RINTOUE(-2))	0.287425	0.111428	2.579464	0.0365
ECMTRANS(-1)	-0.616207	0.131016	-4.703292	0.0022

R-squared	0.966930	Mean dependent var	-0.000200
Adjusted R-squared	0.834650	S.D. dependent var	0.006679
S.E. of regression	0.002716	Akaike info criterion	-9.005934
Sum squared resid	5.16E-05	Schwarz criterion	-7.730321
Log likelihood	191.1068	Durbin-Watson stat	1.687730

OVER PARAMETISED EQUATION FOR THE TENTH DEPENDENT VARIABLE (RBUILD)

Dependent Variable: D(RBUILD)
Method: Least Squares
Date: 01/23/13   Time: 15:16
Sample(adjusted): 1971 2008
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RBUILD(-1))	-0.231558	0.218723	-1.058681	0.3674
D(RBUILD(-2))	0.065355	0.172034	0.379895	0.7293
D(INF)	-0.000174	9.62E-05	-1.811166	0.1678
D(INF(-1))	7.53E-05	8.40E-05	0.897243	0.4357
D(INF(-2))	-5.36E-05	0.000108	-0.494808	0.6547
D(RLR)	-0.000128	8.12E-05	-1.577691	0.2127
D(RLR(-1))	9.20E-05	8.12E-05	1.132078	0.3399
D(RLR(-2))	-8.46E-05	0.000114	-0.744969	0.5103
D(BIT)	0.000139	0.000451	0.308240	0.7781
D(BIT(-1))	-0.000809	0.000612	-1.322566	0.2778
D(BIT(-2))	0.000672	0.000789	0.851239	0.4572
D(MIGA)	0.001245	0.002571	0.484373	0.6613
D(MIGA(-1))	0.004924	0.001866	2.638468	0.0778
D(MIGA(-2))	-0.006868	0.003369	-2.038456	0.1342
D(POLI)	-0.000552	0.000362	-1.524231	0.2248
D(POLI(-1))	-0.000518	0.000207	-2.504891	0.0873
D(POLI(-2))	0.000437	0.000388	1.126669	0.3419
D(EXR)	5.30E-05	5.59E-05	0.948308	0.4129
D(EXR(-1))	2.76E-05	3.90E-05	0.707254	0.5304
D(EXR(-2))	-8.82E-05	4.81E-05	-1.834245	0.1640
D(GDPPC)	-4.29E-06	1.07E-06	-3.992985	0.0281
D(GDPPC(-1))	1.71E-06	1.33E-06	1.291160	0.2871
D(GDPPC(-2))	1.92E-06	8.81E-07	2.176958	0.1177
D(REDEBT)	2.08E-05	0.000651	0.031932	0.9765
D(REDEBT(-1))	-0.000466	0.000498	-0.936871	0.4179
D(REDEBT(-2))	0.001214	0.000602	2.016171	0.1372
D(REXPO)	0.000559	0.000599	0.932364	0.4199
D(REXPO(-1))	0.000684	0.000366	1.869419	0.1583
D(REXPO(-2))	1.20E-05	0.000444	0.027027	0.9801
D(RINTOUE)	0.125106	0.052944	2.362990	0.0991
D(RINTOUE(-1))	-0.090403	0.061622	-1.467055	0.2386
D(RINTOUE(-2))	-0.083223	0.045177	-1.842135	0.1627
ECMBUILD(-1)	-0.674003	0.219354	-3.072669	0.0544

R-squared	0.993131	Mean dependent var	0.000397
Adjusted R-squared	0.919866	S.D. dependent var	0.002927
S.E. of regression	0.000829	Akaike info criterion	-12.00539
Sum squared resid	2.06E-06	Schwarz criterion	-10.55383
Log likelihood	249.0970	Durbin-Watson stat	1.182757

FINAL EQUATION RESULT FOR THE TENTH DEPENDENT VARIABLE (RBUILD)

Dependent Variable: D(RBUILD)
Method: Least Squares
Date: 01/23/13   Time: 15:28
Sample(adjusted): 1971 2008
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RBUILD(-1))	-0.223134	0.098407	-2.267466	0.0496
D(RBUILD(-2))	0.144857	0.084820	1.707828	0.1218
D(INF)	-0.000159	3.77E-05	-4.212168	0.0023
D(INF(-1))	8.92E-05	4.27E-05	2.089633	0.0662
D(RLR)	-0.000120	3.83E-05	-3.141272	0.0119
D(RLR(-1))	0.000104	4.11E-05	2.522448	0.0326
D(RLR(-2))	-3.68E-05	1.10E-05	-3.345922	0.0086
D(BIT(-1))	-0.000764	0.000277	-2.757773	0.0222
D(BIT(-2))	0.001105	0.000354	3.125020	0.0122
D(MIGA(-1))	0.004796	0.001175	4.083233	0.0027

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Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(MIGA(-2))	-0.007697	0.001811	-4.249300	0.0021
D(POLI)	-0.000577	0.000170	-3.392483	0.0080
D(POLI(-1))	-0.000555	0.000121	-4.593325	0.0013
D(POLI(-2))	0.000463	0.000239	1.939162	0.0844
D(EXR)	5.97E-05	2.31E-05	2.585513	0.0294
D(EXR(-2))	-8.28E-05	1.70E-05	-4.871205	0.0009
D(GDPPC)	-4.43E-06	6.81E-07	-6.503737	0.0001
D(GDPPC(-1))	1.94E-06	6.57E-07	2.953258	0.0161
D(GDPPC(-2))	2.32E-06	4.53E-07	5.118144	0.0006
D(REDEBT(-1))	-0.000403	0.000230	-1.751392	0.1138
D(REDEBT(-2))	0.001138	0.000183	6.202091	0.0002
D(REXPO)	0.000398	0.000333	1.195653	0.2624
D(REXPO(-1))	0.000579	0.000186	3.104709	0.0126
D(RINTOUE)	0.138648	0.030923	4.483679	0.0015
D(RINTOUE(-1))	-0.100211	0.031318	-3.199757	0.0108
D(RINTOUE(-2))	-0.092776	0.026321	-3.524738	0.0065
ECMBUILD(-1)	-0.685825	0.123449	-5.555519	0.0004

R-squared	0.990615	Mean dependent var		0.000397
Adjusted R-squared	0.963505	S.D. dependent var		0.002927
S.E. of regression	0.000559	Akaike info criterion		-12.02663
Sum squared resid	2.81E-06	Schwarz criterion		-10.83899
Log likelihood	243.4794	Durbin-Watson stat		1.827100

OVER PARAMETISED EQUATION FOR THE ELEVENTH DEPENDENT VARIABLE (RMQ)

Dependent Variable: D(RMQ)
Method: Least Squares
Date: 07/10/12   Time: 11:48
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RMQ(-1))	0.243617	0.459031	0.530719	0.6324
D(RMQ(-2))	0.520522	0.621127	0.838028	0.4635
D(BIT)	-0.011721	0.039364	-0.297767	0.7853
D(BIT(-1))	0.006466	0.024167	0.267547	0.8064
D(BIT(-2))	0.001357	0.028653	0.047348	0.9652
D(EXR)	-0.000135	0.002625	-0.051428	0.9622
D(EXR(-1))	0.001778	0.001923	0.924426	0.4234
D(EXR(-2))	-0.000647	0.002429	-0.266409	0.8072
D(GDPPC)	-4.13E-05	2.30E-05	-1.796540	0.1703
D(GDPPC(-1))	-4.76E-06	6.66E-05	-0.071561	0.9475
D(GDPPC(-2))	-1.35E-05	7.09E-05	-0.191159	0.8606
D(INF)	-0.003487	0.005026	-0.693696	0.5378
D(INF(-1))	-0.004703	0.006060	-0.776164	0.4942
D(INF(-2))	-0.004218	0.004171	-1.011142	0.3864
D(MIGA)	0.221641	0.171780	1.290259	0.2874
D(MIGA(-1))	-0.085234	0.109307	-0.779774	0.4924
D(MIGA(-2))	0.080350	0.140030	0.573806	0.6063
D(POLI)	0.019071	0.024721	0.771433	0.4966
D(POLI(-1))	-0.002766	0.010713	-0.258229	0.8129
D(POLI(-2))	-0.005167	0.030611	-0.168795	0.8767
D(REDEBT)	0.009215	0.031124	0.296071	0.7865
D(REDEBT(-1))	-0.006239	0.033001	-0.189062	0.8621
D(REDEBT(-2))	-0.000570	0.038904	-0.014651	0.9892
D(RLR)	-0.003225	0.004288	-0.751971	0.5067
D(RLR(-1))	-0.004933	0.006053	-0.815082	0.4747
D(RLR(-2))	-0.004360	0.003704	-1.177275	0.3240
D(REXPO)	0.004767	0.023833	0.200029	0.8542
D(REXPO(-1))	0.000512	0.019263	0.026564	0.9805
D(REXPO(-2))	-0.001309	0.030418	-0.043047	0.9684
D(RINTOUE)	1.187734	2.902632	0.409192	0.7099
D(RINTOUE(-1))	1.915560	3.989925	0.480099	0.6640
D(RINTOUE(-2))	-2.222716	2.234309	-0.994811	0.3932
ECMMQ(-1)	-1.067348	0.794099	-1.344100	0.2715

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R-squared	0.877697	Mean dependent var		0.000903
Adjusted R-squared	-0.426863	S.D. dependent var		0.032968
S.E. of regression	0.039381	Akaike info criterion		-4.282650
Sum squared resid	0.004653	Schwarz criterion		-2.831091
Log likelihood	110.0877	Durbin-Watson stat		2.121916

FINAL EQUATION RESULT FOR THE ELEVENTH DEPENDENT VARIABLE (RMQ)

Dependent Variable: D(RMQ)
Method: Least Squares
Date: 07/10/12   Time: 12:15
Sample(adjusted): 1973 2010
Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RMQ(-1))	0.346416	0.130101	2.662672	0.0186
D(RMQ(-2))	0.589862	0.144670	4.077297	0.0011
D(BIT)	-0.016649	0.009323	-1.785782	0.0958
D(EXR(-1))	0.002310	0.000643	3.592585	0.0029
D(EXR(-2))	-0.000414	0.000310	-1.336768	0.2026
D(GDPPC)	-4.05E-05	1.01E-05	-4.016989	0.0013
D(INF)	-0.004074	0.001541	-2.644078	0.0193
D(INF(-1))	-0.005311	0.001222	-4.345361	0.0007
D(INF(-2))	-0.005444	0.001469	-3.704771	0.0024
D(MIGA)	0.213394	0.042964	4.966752	0.0002
D(MIGA(-1))	-0.084909	0.037342	-2.273807	0.0392
D(MIGA(-2))	0.107966	0.034668	3.114307	0.0076
D(POLI)	0.018015	0.004930	3.654134	0.0026
D(REDEBT)	0.010574	0.003661	2.888381	0.0119
D(REDEBT(-1))	-0.006625	0.003856	-1.718114	0.1078
D(RLR)	-0.004028	0.001503	-2.680358	0.0179
D(RLR(-1))	-0.005458	0.001168	-4.671920	0.0004
D(RLR(-2))	-0.005432	0.001396	-3.892161	0.0016
D(RINTOUE)	1.368635	0.464196	2.948398	0.0106
D(RINTOUE(-1))	1.588260	0.534559	2.971156	0.0101
D(RINTOUE(-2))	-2.916165	0.728291	-4.004119	0.0013
ECMMQ(-1)	-1.083308	0.151239	-7.162910	0.0000
R-squared	0.849844	Mean dependent var		0.000903
Adjusted R-squared	0.624610	S.D. dependent var		0.032968
S.E. of regression	0.020199	Akaike info criterion		-4.688584
Sum squared resid	0.005712	Schwarz criterion		-3.720878
Log likelihood	106.3945	Durbin-Watson stat		2.160988

Source: Computed by the author

COINTEGRATION TEST

Sample (adjusted): 1972 2010
Included observations: 39 after adjustments
Trend assumption: No deterministic trend
Series: RNFDI INF ER REDEBT RINTOUE GDPPC RLR POLI MIGA BIT REXPO
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.972290	518.6142	263.2603	0.0001
At most 1 *	0.940965	378.7615	219.4016	0.0000
At most 2 *	0.869859	268.4060	179.5098	0.0000
At most 3 *	0.811350	188.8795	143.6691	0.0000
At most 4 *	0.700119	123.8330	111.7805	0.0069
At most 5	0.543636	76.86257	83.93712	0.1460
At most 6	0.421870	46.26848	60.06141	0.4141
At most 7	0.281209	24.89819	40.17493	0.6531
At most 8	0.150023	12.02100	24.27596	0.7037
At most 9	0.134154	5.681703	12.32090	0.4759
At most 10	0.001635	0.063816	4.129906	0.8359

Trace test indicates 5 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.972290	139.8527	67.07555	0.0001
At most 1 *	0.940965	110.3555	61.03407	0.0000
At most 2 *	0.869859	79.52648	54.96577	0.0000
At most 3 *	0.811350	65.04653	48.87720	0.0005
At most 4 *	0.700119	46.97039	42.77219	0.0162
At most 5	0.543636	30.59409	36.63019	0.2137
At most 6	0.421870	21.37029	30.43961	0.4285
At most 7	0.281209	12.87719	24.15921	0.7042
At most 8	0.150023	6.339298	17.79730	0.8704
At most 9	0.134154	5.617887	11.22480	0.3952
At most 10	0.001635	0.063816	4.129906	0.8359

Max-eigenvalue test indicates 5 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Date: 08/16/12   Time: 15:04
Sample (adjusted): 1972 2010
Included observations: 39 after adjustments
Trend assumption: No deterministic trend (restricted constant)
Series: RUKFDI INF ER REDEBT RINTOUE GDPPC RLR POLI MIGA BIT REXPO
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.959131	546.0720	298.1594	0.0000
At most 1 *	0.933843	421.3743	251.2650	0.0000
At most 2 *	0.857627	315.4607	208.4374	0.0000
At most 3 *	0.810096	239.4379	169.5991	0.0000
At most 4 *	0.789208	174.6498	134.6780	0.0000
At most 5 *	0.678910	113.9313	103.8473	0.0091
At most 6	0.451410	69.62602	76.97277	0.1592
At most 7	0.372647	46.21030	54.07904	0.2080
At most 8	0.294715	28.02669	35.19275	0.2401
At most 9	0.209074	14.40972	20.26184	0.2622
At most 10	0.126223	5.262260	9.164546	0.2559

 Trace test indicates 6 cointegrating eqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.959131	124.6977	71.33542	0.0000
At most 1 *	0.933843	105.9136	65.30016	0.0000
At most 2 *	0.857627	76.02278	59.24000	0.0006
At most 3 *	0.810096	64.78815	53.18784	0.0022
At most 4 *	0.789208	60.71845	47.07897	0.0010
At most 5 *	0.678910	44.30531	40.95680	0.0202
At most 6	0.451410	23.41572	34.80587	0.5664
At most 7	0.372647	18.18360	28.58808	0.5601
At most 8	0.294715	13.61697	22.29962	0.4976
At most 9	0.209074	9.147463	15.89210	0.4181
At most 10	0.126223	5.262260	9.164546	0.2559

 Max-eigenvalue test indicates 6 cointegrating eqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values

Date: 08/16/12   Time: 15:07
Sample (adjusted): 1972 2010
Included observations: 39 after adjustments
Trend assumption: No deterministic trend (restricted constant)
Series: RUSFDI INF ER REDEBT RINTOUE GDPPC RLR POLI MIGA BIT REXPO
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**

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None *	0.970182	555.0148	298.1594	0.0000
At most 1 *	0.903942	418.0214	251.2650	0.0000
At most 2 *	0.859999	326.6520	208.4374	0.0000
At most 3 *	0.819220	249.9737	169.5991	0.0000
At most 4 *	0.754171	183.2652	134.6780	0.0000
At most 5 *	0.695985	128.5435	103.8473	0.0004
At most 6 *	0.538852	82.10706	76.97277	0.0192
At most 7	0.446806	51.91965	54.07904	0.0769
At most 8	0.275237	28.82980	35.19275	0.2061
At most 9	0.234321	16.27527	20.26184	0.1619
At most 10	0.139569	5.862574	9.164546	0.2016

 Trace test indicates 7 cointegrating eqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.970182	136.9933	71.33542	0.0000
At most 1 *	0.903942	91.36944	65.30016	0.0000
At most 2 *	0.859999	76.67826	59.24000	0.0005
At most 3 *	0.819220	66.70851	53.18784	0.0013
At most 4 *	0.754171	54.72170	47.07897	0.0063
At most 5 *	0.695985	46.43646	40.95680	0.0110
At most 6	0.538852	30.18741	34.80587	0.1607
At most 7	0.446806	23.08985	28.58808	0.2151
At most 8	0.275237	12.55454	22.29962	0.6004
At most 9	0.234321	10.41269	15.89210	0.2983
At most 10	0.139569	5.862574	9.164546	0.2016

 Max-eigenvalue test indicates 6 cointegrating eqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values

Date: 08/16/12   Time: 15:08
Sample (adjusted): 1972 2010
Included observations: 39 after adjustments
Trend assumption: No deterministic trend
Series: RWEFDI INF ER REDEBT RINTOUE GDPPC RLR POLI MIGA BIT REXPO
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.972236	518.6106	263.2603	0.0001
At most 1 *	0.941595	378.8342	219.4016	0.0000
At most 2 *	0.869114	268.0606	179.5098	0.0000
At most 3 *	0.811429	188.7569	143.6691	0.0000
At most 4 *	0.700695	123.6940	111.7805	0.0070
At most 5	0.540862	76.64854	83.93712	0.1503
At most 6	0.422006	46.29081	60.06141	0.4131
At most 7	0.281287	24.91134	40.17493	0.6523
At most 8	0.150218	12.02988	24.27596	0.7030
At most 9	0.134084	5.681625	12.32090	0.4759
At most 10	0.001714	0.066905	4.129906	0.8320

Trace test indicates 5 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.972236	139.7764	67.07555	0.0001
At most 1 *	0.941595	110.7736	61.03407	0.0000
At most 2 *	0.869114	79.30366	54.96577	0.0000
At most 3 *	0.811429	65.06297	48.87720	0.0005
At most 4 *	0.700695	47.04543	42.77219	0.0159
At most 5	0.540862	30.35773	36.63019	0.2245
At most 6	0.422006	21.37947	30.43961	0.4278
At most 7	0.281287	12.88146	24.15921	0.7039
At most 8	0.150218	6.348257	17.79730	0.8697
At most 9	0.134084	5.614720	11.22480	0.3956
At most 10	0.001714	0.066905	4.129906	0.8320

Max-eigenvalue test indicates 5 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Date: 08/16/12   Time: 15:10
Sample (adjusted): 1972 2010
Included observations: 39 after adjustments
Trend assumption: No deterministic trend
Series: ROTFDI INF ER REDEBT RINTOUE GDPPC RLR POLI MIGA BIT REXPO
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.956824	496.4726	263.2603	0.0001
At most 1 *	0.942461	373.9163	219.4016	0.0000
At most 2 *	0.860064	262.5601	179.5098	0.0000
At most 3 *	0.748607	185.8640	143.6691	0.0000
At most 4 *	0.724731	132.0152	111.7805	0.0014
At most 5	0.550620	81.70499	83.93712	0.0718
At most 6	0.427078	50.50942	60.06141	0.2459
At most 7	0.312689	28.78621	40.17493	0.4204
At most 8	0.201789	14.16244	24.27596	0.5236
At most 9	0.125184	5.372538	12.32090	0.5164
At most 10	0.004008	0.156627	4.129906	0.7435

Trace test indicates 5 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.956824	122.5563	67.07555	0.0001
At most 1 *	0.942461	111.3562	61.03407	0.0000

At most 2 *	0.860064	76.69610	54.96577	0.0001
At most 3 *	0.748607	53.84884	48.87720	0.0138
At most 4 *	0.724731	50.31021	42.77219	0.0061
At most 5	0.550620	31.19558	36.63019	0.1880
At most 6	0.427078	21.72321	30.43961	0.4023
At most 7	0.312689	14.62376	24.15921	0.5430
At most 8	0.201789	8.789906	17.79730	0.6180
At most 9	0.125184	5.215911	11.22480	0.4474
At most 10	0.004008	0.156627	4.129906	0.7435

Max-eigenvalue test indicates 5 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Date: 08/16/12   Time: 15:12
Sample (adjusted): 1972 2010
Included observations: 39 after adjustments
Trend assumption: No deterministic trend
Series: RMQ INF ER REDEBT RINTOUE GDPPC RLR POLI MIGA BIT REXPO
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.958424	495.2063	263.2603	0.0001
At most 1 *	0.916002	371.1775	219.4016	0.0000
At most 2 *	0.867974	274.5759	179.5098	0.0000
At most 3 *	0.817803	195.6103	143.6691	0.0000
At most 4 *	0.678335	129.2063	111.7805	0.0025
At most 5 *	0.562415	84.97070	83.93712	0.0420
At most 6	0.354098	52.73778	60.06141	0.1781
At most 7	0.336998	35.69056	40.17493	0.1316
At most 8	0.251056	19.66245	24.27596	0.1712
At most 9	0.192775	8.387903	12.32090	0.2081
At most 10	0.000921	0.035920	4.129906	0.8767

Trace test indicates 6 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.958424	124.0288	67.07555	0.0001
At most 1 *	0.916002	96.60164	61.03407	0.0000
At most 2 *	0.867974	78.96557	54.96577	0.0001
At most 3 *	0.817803	66.40404	48.87720	0.0003
At most 4 *	0.678335	44.23556	42.77219	0.0342
At most 5	0.562415	32.23293	36.63019	0.1492
At most 6	0.354098	17.04722	30.43961	0.7711
At most 7	0.336998	16.02811	24.15921	0.4192
At most 8	0.251056	11.27455	17.79730	0.3605
At most 9	0.192775	8.351983	11.22480	0.1532
At most 10	0.000921	0.035920	4.129906	0.8767

Max-eigenvalue test indicates 5 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level

Date: 08/16/12   Time: 15:17
Sample (adjusted): 1972 2010
Included observations: 39 after adjustments
Trend assumption: No deterministic trend
Series: RMAN INF ER REDEBT RINTOUE GDPPC RLR POLI MIGA BIT REXPO
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.967792	493.9316	263.2603	0.0001
At most 1 *	0.901404	359.9458	219.4016	0.0000
At most 2 *	0.828907	269.5937	179.5098	0.0000
At most 3 *	0.793947	200.7374	143.6691	0.0000
At most 4 *	0.676199	139.1321	111.7805	0.0003
At most 5 *	0.595042	95.15463	83.93712	0.0061
At most 6	0.480766	59.89977	60.06141	0.0516
At most 7	0.318255	34.33915	40.17493	0.1709
At most 8	0.236524	19.39824	24.27596	0.1824
At most 9	0.199358	8.873164	12.32090	0.1766
At most 10	0.005162	0.201846	4.129906	0.7090

Trace test indicates 6 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.967792	133.9858	67.07555	0.0001
At most 1 *	0.901404	90.35206	61.03407	0.0000
At most 2 *	0.828907	68.85634	54.96577	0.0012
At most 3 *	0.793947	61.60533	48.87720	0.0015
At most 4 *	0.676199	43.97743	42.77219	0.0366
At most 5	0.595042	35.25486	36.63019	0.0717
At most 6	0.480766	25.56061	30.43961	0.1797
At most 7	0.318255	14.94091	24.15921	0.5141
At most 8	0.236524	10.52508	17.79730	0.4314
At most 9	0.199358	8.671317	11.22480	0.1359
At most 10	0.005162	0.201846	4.129906	0.7090

Max-eigenvalue test indicates 5 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Date: 08/16/12   Time: 15:42
Sample (adjusted): 1972 2010
Included observations: 39 after adjustments
Trend assumption: No deterministic trend
Series: RMAN INF ER REDEBT RINTOUE GDPPC RLR POLI MIGA BIT REXPO
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.967792	493.9316	263.2603	0.0001
At most 1 *	0.901404	359.9458	219.4016	0.0000
At most 2 *	0.828907	269.5937	179.5098	0.0000
At most 3 *	0.793947	200.7374	143.6691	0.0000
At most 4 *	0.676199	139.1321	111.7805	0.0003
At most 5 *	0.595042	95.15463	83.93712	0.0061
At most 6	0.480766	59.89977	60.06141	0.0516
At most 7	0.318255	34.33915	40.17493	0.1709
At most 8	0.236524	19.39824	24.27596	0.1824
At most 9	0.199358	8.873164	12.32090	0.1766
At most 10	0.005162	0.201846	4.129906	0.7090

 Trace test indicates 6 cointegrating eqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.967792	133.9858	67.07555	0.0001
At most 1 *	0.901404	90.35206	61.03407	0.0000
At most 2 *	0.828907	68.85634	54.96577	0.0012
At most 3 *	0.793947	61.60533	48.87720	0.0015
At most 4 *	0.676199	43.97743	42.77219	0.0366
At most 5	0.595042	35.25486	36.63019	0.0717
At most 6	0.480766	25.56061	30.43961	0.1797
At most 7	0.318255	14.94091	24.15921	0.5141
At most 8	0.236524	10.52508	17.79730	0.4314
At most 9	0.199358	8.671317	11.22480	0.1359
At most 10	0.005162	0.201846	4.129906	0.7090

 Max-eigenvalue test indicates 5 cointegrating eqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values

Date: 08/16/12   Time: 15:45
Sample (adjusted): 1972 2010
Included observations: 39 after adjustments
Trend assumption: No deterministic trend
Series: RAGRIC INF ER REDEBT RINTOUE GDPPC RLR POLI MIGA BIT REXPO
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**

Hypothesized No. of CE(s)	Eigenvalue	Trace/Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.945709	462.0126	263.2603	0.0001
At most 1 *	0.923542	348.3903	219.4016	0.0000
At most 2 *	0.829654	248.1209	179.5098	0.0000
At most 3 *	0.696247	179.0939	143.6691	0.0001
At most 4 *	0.645166	132.6238	111.7805	0.0012
At most 5 *	0.586347	92.21571	83.93712	0.0110
At most 6	0.467679	57.78930	60.06141	0.0766
At most 7	0.321918	33.19949	40.17493	0.2106
At most 8	0.252498	18.04849	24.27596	0.2488
At most 9	0.151140	6.698772	12.32090	0.3561
At most 10	0.007872	0.308205	4.129906	0.6405

Trace test indicates 6 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.945709	113.6223	67.07555	0.0001
At most 1 *	0.923542	100.2694	61.03407	0.0000
At most 2 *	0.829654	69.02701	54.96577	0.0011
At most 3	0.696247	46.47008	48.87720	0.0880
At most 4	0.645166	40.40809	42.77219	0.0890
At most 5	0.586347	34.42641	36.63019	0.0884
At most 6	0.467679	24.58980	30.43961	0.2246
At most 7	0.321918	15.15100	24.15921	0.4952
At most 8	0.252498	11.34972	17.79730	0.3539
At most 9	0.151140	6.390567	11.22480	0.3074
At most 10	0.007872	0.308205	4.129906	0.6405

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Date: 08/16/12   Time: 16:03
Sample (adjusted): 1972 2010
Included observations: 39 after adjustments
Trend assumption: No deterministic trend
Series: RTRANS INF ER REDEBT RINTOUE GDPPC RLR POLI MIGA BIT REXPO
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.958132	491.1656	263.2603	0.0001
At most 1 *	0.930437	367.4093	219.4016	0.0000
At most 2 *	0.842343	263.4537	179.5098	0.0000
At most 3 *	0.795458	191.4076	143.6691	0.0000
At most 4 *	0.688818	129.5153	111.7805	0.0023
At most 5 *	0.522889	83.98752	83.93712	0.0496
At most 6	0.397574	55.12730	60.06141	0.1217
At most 7	0.341450	35.36251	40.17493	0.1404
At most 8	0.282891	19.07164	24.27596	0.1971
At most 9	0.131875	6.103057	12.32090	0.4235
At most 10	0.014956	0.587705	4.129906	0.5049

Trace test indicates 6 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.958132	123.7562	67.07555	0.0001
At most 1 *	0.930437	103.9556	61.03407	0.0000
At most 2 *	0.842343	72.04613	54.96577	0.0005
At most 3 *	0.795458	61.89228	48.87720	0.0013
At most 4 *	0.688818	45.52776	42.77219	0.0242
At most 5	0.522889	28.86022	36.63019	0.3019
At most 6	0.397574	19.76479	30.43961	0.5553
At most 7	0.341450	16.29087	24.15921	0.3976
At most 8	0.282891	12.96858	17.79730	0.2298
At most 9	0.131875	5.515352	11.22480	0.4081
At most 10	0.014956	0.587705	4.129906	0.5049

Max-eigenvalue test indicates 5 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Date: 08/16/12   Time: 16:04
Sample (adjusted): 1972 2010
Included observations: 39 after adjustments
Trend assumption: No deterministic trend
Series: RBUILD INF ER REDEBT RINTOUE GDPPC RLR POLI MIGA BIT REXPO
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.966097	535.8947	263.2603	0.0001
At most 1 *	0.949074	403.9091	219.4016	0.0000
At most 2 *	0.887434	287.7913	179.5098	0.0000
At most 3 *	0.765707	202.6068	143.6691	0.0000
At most 4 *	0.725188	146.0106	111.7805	0.0001
At most 5 *	0.619664	95.63565	83.93712	0.0055
At most 6	0.491563	57.93438	60.06141	0.0746
At most 7	0.331248	31.55425	40.17493	0.2786
At most 8	0.216615	15.86293	24.27596	0.3896
At most 9	0.150078	6.341818	12.32090	0.3956
At most 10	8.65E-08	3.37E-06	4.129906	0.9983

Trace test indicates 6 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.966097	131.9855	67.07555	0.0001
At most 1 *	0.949074	116.1179	61.03407	0.0000
At most 2 *	0.887434	85.18443	54.96577	0.0000
At most 3 *	0.765707	56.59619	48.87720	0.0064

At most 4 *	0.725188	50.37500	42.77219	0.0060
At most 5 *	0.619664	37.70127	36.63019	0.0373
At most 6	0.491563	26.38013	30.43961	0.1475
At most 7	0.331248	15.69132	24.15921	0.4478
At most 8	0.216615	9.521111	17.79730	0.5368
At most 9	0.150078	6.341815	11.22480	0.3125
At most 10	8.65E-08	3.37E-06	4.129906	0.9983

Max-eigenvalue test indicates 6 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values